Océ CS 5090

User Manual

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Océ-Technologies B.V.

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Chapter 1
Introduction

The Océ CS 5090 are wide-format colour printers that give professional quality output with all the brilliance and gloss of liquid ink. The Océ CS 5090 printers reduce production time while maintaining exceptional graphics quality.

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How to use this manual

There are a number of notation conventions used in this manual. This consistent style enables you to quickly become conversant with the use of this manual and consequently the Océ CS 5090.

Description Each section or subsection contains a description of the feature or operation identified in the title. It might also include possible applications, as well as any guidelines that you should bear in mind.

Procedures A description is followed by a procedure. A procedure always begins with a phrase which briefly describes the procedure, followed by a series of numbered steps that take you, step by step, through all phases of performing the operation.

Figures and tables Figures and tables are titled and numbered sequentially throughout this manual. Figures include pictures of product components, screendumps, examples, and diagrams of concepts discussed in the description.

Videos Several pages of the manual include short Quick Time videos illustrating some manipulations or procedures described in the manual. Those videos are represented with a small screen displaying the first image of the movie:

All you need to do is to click on the screen. A new page is displayed with the video on the right and the text on the left. Click the image to launch the video. If you want to stop the video before the end, click anywhere on the page. When the video is finished, click 'Back' to go back to the manual.

Attention getters There are several types of information to which we draw your attention. This information is classified as follows:

Note: *In a 'Note', information is given about matters which ensure the proper functioning of the machine or application, but useful advice concerning its operation may also be given.*

Attention: *The information that follows 'Attention' is given to prevent something (your copy or original, the copier or printer, data files etc.) being damaged.*

Caution: *The information that follows 'Caution' is given to prevent you suffering personal injury.*

Printing with Océ CS 5090

The Océ CS 5090 wide format inkjet printers can reproduce graphics up to the length of a roll of media. Large format colour printing combines the technical sophistication of the Océ CS 5090 series with the unique qualities of Océ proprietary inks and media (coated canvas, vinyl, film, paper, etc.)

The Océ CS 5090 printers are 8-cartridge printers, which means that you can print either with the left four cartridges, the right four cartridges or all eight cartridges.

With the CS5090 8-colours, you can choose between two different modes:

- The Productivity mode (two sets of cartridges using 4 colours, CMYK). It offers a great improvement in terms of print speed and flexibility since you can use different types of ink: Standard Colour in the four left cartridges and Outdoor Colour in the four right, for instance.
- The Quality mode (one set of 8 different colours, CMYK $C_L M_L C_M M_M$[1]). It offers a real improvement in the tonal gradation of your prints thanks to the diluted colours, Light Cyan and Magenta, Medium Cyan and Magenta.

[1]. L: Light, M:Medium

Graphic reproductions

The Océ CS 5090 addresses the following printing needs:

- Posters
- Signs
- Fine art
- Banners
- Displays
- Proofing
- DTP
- Imposition proofing
- Textile design
- Packaging prototypes
- Point of purchase
- Exhibits
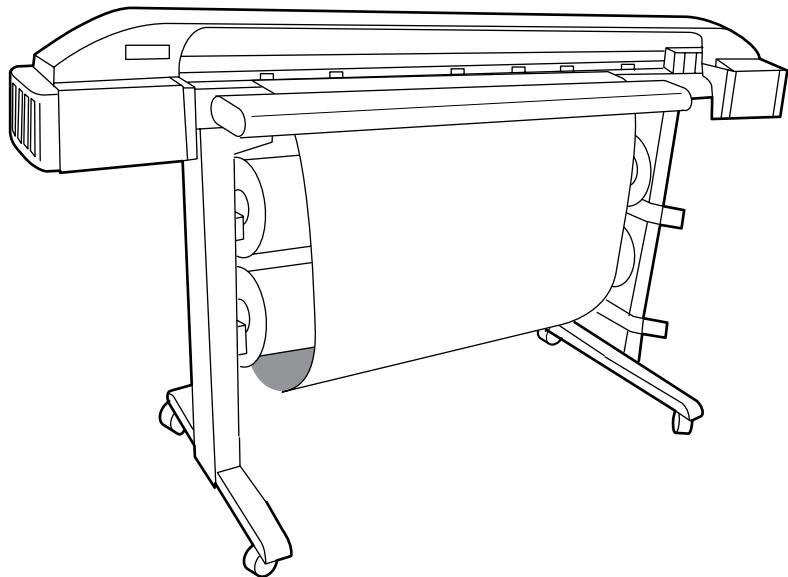
[1] Front view Océ CS 5090 printer

Choice of print mode

There are several modes of printing, which are compromises between image quality and speed. When printing heavy renderings, maps, or art graphics, choose one of the quality printing modes. Certain types of media also require quality printing modes.

To select the appropriate printing mode for a specific print job, refer to 'Set print passes' on page 96.

Ink cartridge preparation and alignment

Cartridge maintenance and alignment are key factors in printer performance, which in turn affects colour accuracy and image quality. Use the following recommendations to keep your cartridges in optimal working condition:

■ Keep the printer service stations clean so that the heads stay clean.
■ Use a loupe to evaluate the registration of test patterns to achieve the best possible accuracy.
■ Align and check cartridges to make sure all nozzles work properly.
■ Re-align all cartridges when you adjust, move, or replace a cartridge, since even small, one-pixel errors can affect both colour and image quality.

Chapter 2
Getting started

This section explains the initial setup procedure of the Océ CS 5090:

- *operate the printer*
- *load media*
- *use the carriage*
- *fill ink reservoirs*
- *install, prime, and calibrate ink cartridges*

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Operate the CS 5090

Before printing, make sure that you are familiar with the start-up checklist and the main menu functions of the control panel.

Start up checklist

▶**Click for Video**

To start the CS 5090, check the following:

- The power cord is plugged into the electrical outlet.
- The printer connects to your computer using a parallel cable.
- Turn on the printer before attempting to print. When you switch on the printer, carriage moves to the left and checks if there is media loaded. If it is the case, media size is automatically determined.

Note: *In Roll/Sheet mode, the leading edge of the media is detected.*

Locate the control panel

You can locate the control panel on the right-hand side of the printer. It includes seven buttons and a display indicating modes and settings, as illustrated below. For a complete summary of all printer options, see 'Main menu at a glance' on page 46.

Load Media	Feed Media Menu
Cut	Set Up Menu
Pause	Utility Menu
Reset	
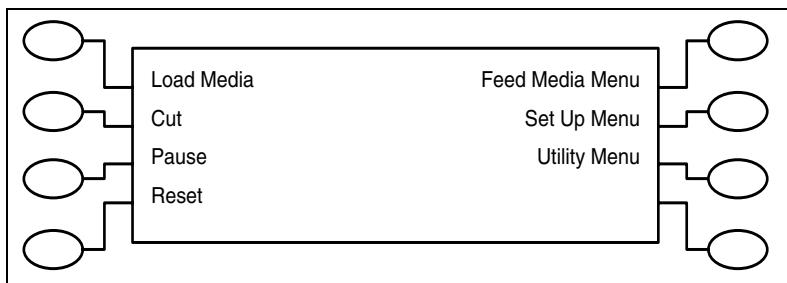
[2] Océ CS 5090 control panel

Choose menu functions

There are two types of menus:

- **action menus** provide a list of additional menus or immediate tasks to perform.
- **selection menus** let you view and modify printer settings.

▼ **To select menu functions**

1 To select a function, press the button displayed next to the function.
The display lists options available for the selected function.
2 Press the **Next Option** or **Prev. Option** buttons to display the selections.
3 When the selection you want displays, press the button for that option and press **OK**.
4 Depending on the type of menu, you can return to the previous menu level by pressing the **OK** or **Exit** button.
5 Press **Exit** consecutively to return to the main menu.
6 Press the **Cancel** button to restore the previous setting and exit the menu.

Set the language

The Océ CS 5090 can display menu items in English, German, French, Italian, Portuguese, Korean, Japanese, and simplified and traditional Chinese.

▼ **To set a language**

1 Press **Setup/User Setup/Language**.
2 Select the language you want.
3 Press **OK**.

Load media

You can use either roll media or cut sheets. By default, the printer accepts roll media. To ensure straight paper loading and avoid skewing, hold the media parallel to the platen line. Use the load lines on the platen as a guide. The printer has sensors which detect the presence of media and activate the feed and take-up mechanisms.

The roll media core must have an inside diameter of 5 cm and a maximum outside diameter of 15 cm. If your media has an inside diameter of 8 cm, use the core adapter provided. If you want to store prints on the take-up roll, you will need to have extra cores available.

Caution: *The Océ CS 5090 printers (60" version) can use media up to 60" (1,52 m) wide. The media roll can be heavy, so have someone help you to load it. Before printing, check that you have a take-up roll core available that is the same width as the media roll you are loading.*

Attention: *If your roll media has wrinkled or damaged edges, cut off the damaged part of the roll prior to loading to prevent the media from jamming in the printer. Load only media with a perfectly horizontal edge into the printer. Take care that your fingerprints do not go on the printing side of glossy media paper.*

Use the power media feed and take-up system

The power media feed and take-up system facilitates long, unattended print jobs by automatically unwinding and rewinding media as prints are generated. It includes a feed roll, a take-up roll, and sensors which prevent media from touching the floor.

When the unit is first turned on, the feeder may turn for a few seconds. If the take-up turns, it indicates that the sensor is blocked. Clear anything blocking the sensor before proceeding.

Load roll media

▼ **To load roll media**

1 Slide the rolled media onto the media (upper) roller, orienting the paper as shown.

2 Slide the media guide into the roll core, and tighten the guide to secure the roll by turning the knob clockwise.

3 Standing behind the printer, insert the media's leading edge into the back of the printer. The printer automatically detects the presence of the media and forwards it.

4 Press **Load Media** to move the media into printing position.

[3] Loading media
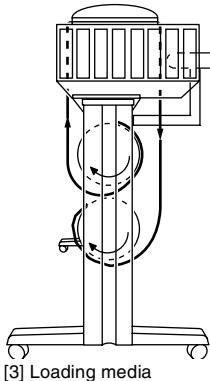
Use the take-up roll

The take-up roll facilitates unattended print jobs by automatically winding printed media onto a core. In this mode, the automatic c.utter is disabled. When using this option, be sure that the media sensor on the printer's right leg is not blocked.

▼ **To install the take-up roll**

1 Install an empty core onto the take-up guides. Be sure that the core width matches the width of the media you are using.

2 Slide the roll guide onto the media core, and secure it by tightening the locking mechanism. If you moved the sensor mounting bracket before loading the roll media, be sure to return it to its normal position.

3 Since media cores can be narrower than the media, position the media guide at 3 mm (1/8") from the end of the core and lock it into place.

4 Press **Feed Media/Forward** to advance enough media to allow its leading edge to come to the center of the take-up roll.
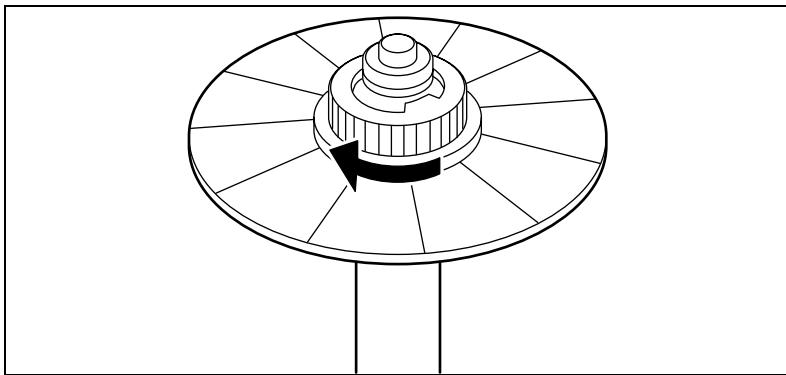
[4] Locking the take-up roll

5 Using at least three pieces of tape, attach the leading edge of the media to the take-up roll at the left, right, and center of the core.

6 As printing progresses, the media loops down to the front of the take-up core until the sensor detects it on the printer stand leg. The take-up rolls then activate to roll the media.

Note: *Be sure not to block the sensor!*
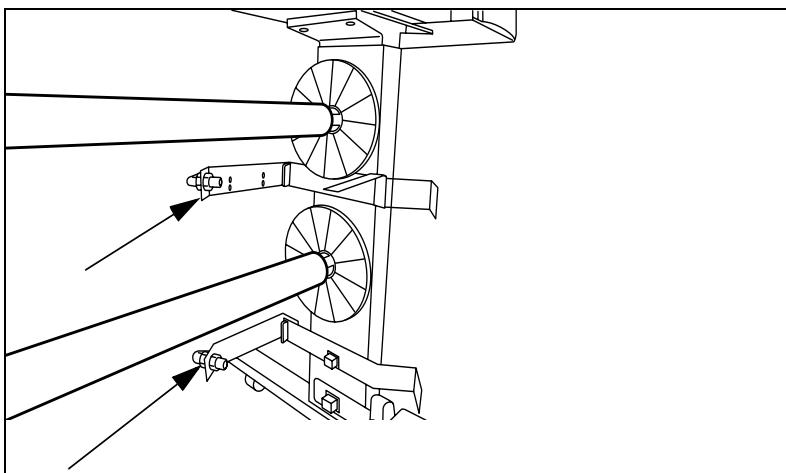
[5] Sensors on the printer stand

▼   **To set the take-up mode**

1 Press **Setup /Paper Option**, then **Supply Type/Take-up**.

2 Press **OK**. This enables the take-up roll and disables the cutter.

▼　　　**To unload the take-up roll**

1 Press the **Cut** button to cut the media.
2 Remove the roll from the printer.
3 Release the adjustable roll guide.
4 Slide the take-up roll out of the printer.

Use the second feed roll

The takeup roll can also be used as a feed roll. If you use the takeup roll as a feed roll, you cannot use the takeup system. If you want to use the takeup roll as a feed roll, set the printer to ROLL2 by pressing Setup Menu/Paper Options Menu/Supply Type/Roll2. Follow the loading instructions in the previous section using the bottom roll.
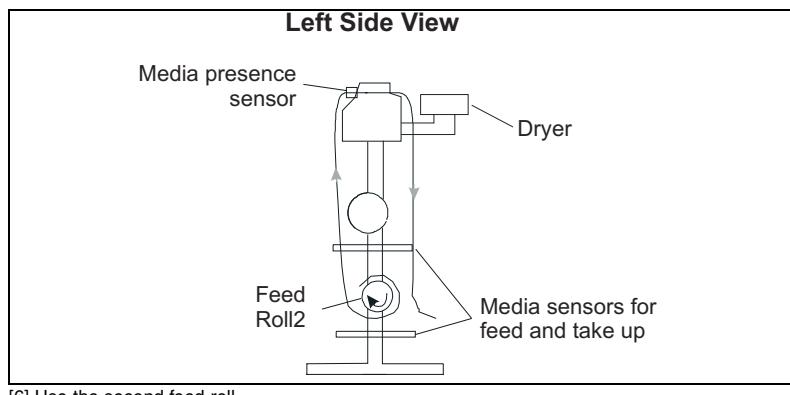
[6] Use the second feed roll

Caution: *When using the ROLL2 option, the media has a tendency to curl inward under the bottom roller. This could block the media sensor and prevent the reed roller from feeding media. Make sure you keep the media turned outward, away from the media sensor.*

Load sheet media

▼ **To load sheet media**

1 Press **Setup/Paper Options**.
2 Press **Supply Type/Sheet**.
3 Press **OK**.
4 Load the sheet from the back of the printer, aligning it with the alignment mark on the platen.
5 Make sure that the media is flat and under the rollers. The printer automatically senses the media's presence and forwards it until it reaches the start position on the platen.

Use the carriage

Move the carriage

When not in use, the cartridges remain in the service station at the right side of the printer. This device seals the inkjets to prevent them from drying out.

With the power on, always use the **Utility/Access menu** to move the carriage away from the service station when you install, change, adjust, or clean the ink cartridges or the service station.

▼   **Move the carriage**

1 On the Control Panel, select 'Utility menu' then 'Access menu'.
2 Three options are available:
   - 'Access Left': the carriage is then moved completely to the left side of the printer. Now, the left cartridges 4, 3, 2 ,1 (or, when using diluted inks: Light Magenta, Light Cyan, Medium Magenta, Medium Cyan) can be accessed.
   - 'Access Right': the carriage moves a little to the left. Now, the right cartridges C, M, Y, K can be accessed.
   - 'Access Home' to place the carriage back to the service station.

Install cutter ▶Click for Video

With an installed cutter, the printer cuts the media automatically after printing.

Caution: *Be careful when handling the cutter to avoid injury.*

Attention: *For normal media, do not use an external knife or cutter to cut as this can damage the platen and prevent the media sensors from working properly. However, for heavy media such as canvas, use the "Feed media" menu to advance the media through the printer before cutting with scissors.*

▼   **To install the cutter**

1 Press **Utility Menu/Access Menu/Access Right** to move the carriage out from the service station.
2 Press down the lever of the old cutter to remove it from the carriage.
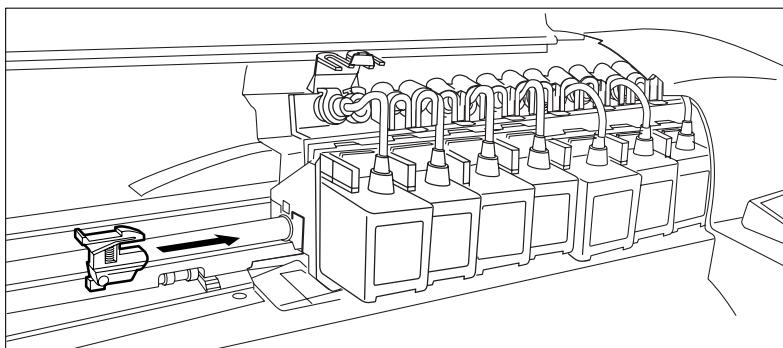
[7] Installing the cutter

3 Push the new cutter into the slot until it clicks into place.
4 Press **Utility Menu/Access Menu/Access Home** to move the carriage back into the service station. This ensures that the cutter blade is in the home position.

Note: *When the cutter becomes worn, it can cause the carriage to jam or can cause a ragged media cut. In extreme cases, you might see an error message stating "Carriage Axis Failure" (see 'Carriage axis failure' on page 127).*

Fill the ink reservoirs

The Océ CS 5090 can handle long, uninterrupted print jobs because each of its eight reservoirs holds 500 ml of ink. The ink reservoirs are located at the printer's left side. Use Océ inks for best results.

Note: *When running at carriage speeds faster than the default, the ink levels in the reservoirs should be no more than 375 ml maximum.*
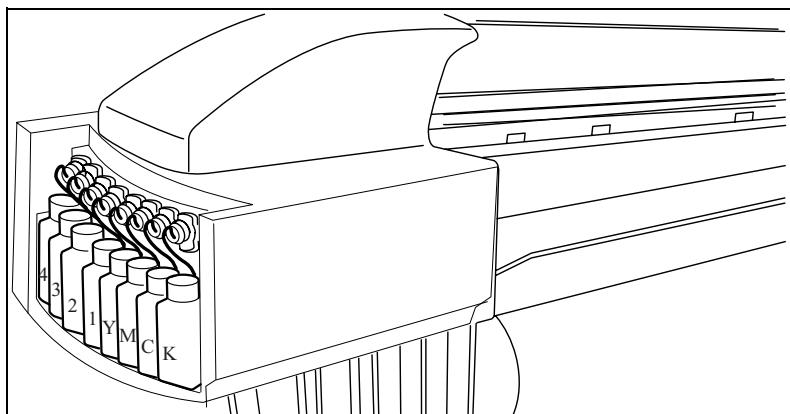
[8] Filling the ink reservoirs

Note: *To place the ink reservoirs in the right order, see the sticker on the carriage. Observe the ink order from left to right as follows: 4 (Yellow or Light Magenta), 3 (Magenta or Light Cyan), 2 (Cyan or Medium Magenta), 1 (Black or Medium Cyan), Yellow, Magenta, Cyan, Black.*

▼ **To fill the ink reservoirs**

1 Access the ink reservoirs on the left side of the printer. Unscrew the cap of one reservoir.
   Note: *Open only one reservoir at a time to prevent contamination with other ink colours.*
2 Remove cap from the bottle.
3 Check that you are using the same type of ink in all the reservoirs and cartridges.
4 Fill the reservoir up to 375 ml, or no more than 1/2 inch from the top of the reservoir.
5 Check that there is no excess ink on the reservoir cap.
6 Replace the cap on the reservoir.
7 Repeat for the remaining reservoirs.

Attention: *A complete second set of connections is provided with colour-coded quick connect fittings for changing to another type of ink. Be sure that each reservoir is connected to the same colour fitting.*

Install ink cartridges

▶**Click for Video**

The process of installing new ink cartridges involves the following phases:

■ Place the cartridges on the carriage
■ Prime the ink delivery lines
■ Print a colour test

Attention: *The Océ CS 5090 works with only Océ pre-filled ink cartridges. Using other cartridges can damage the printer and/or prevent the printer from printing.*

Cartridge sets

This printer is an 8-head inkjet printer. You can print with the left four cartridges, the right four cartridges or all eight cartridges (see 'Select cartridge sets' on page 94).

Facing the printer, the left four cartridges are designated as 1 x 4 Left cartridge set, the right four cartridges are designated as 1 x 4 Right cartridge set and when using all cartridges they are designated as 2 x 4 cartridge set or (when available) as 1x8 when using all cartridges with 8 different colours (Diluted inks + CMYK).

When using the 2 x 4 Cartridge Set mode, the left cartridge set has these colours: 4 = yellow; 3 = magenta; 2 = cyan; and 1 = black. The following illustration will help you identify each one of the stalls or slots on the carriage where the cartridges are installed.
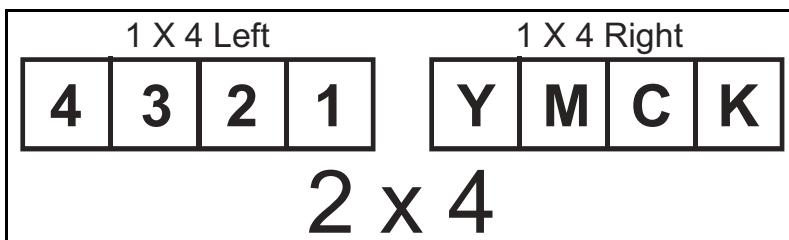
[9] Cartridge sets (1x4 & 2x4)

For a 2x4 cartridge configuration all eight cartridge stalls will be utilized with cartridge tubing needles connected to the valves on the 'right' side of the carriage cover.

For 1x4 Left cartridge configuration, such as with a different ink set, only the 4 left cartridge slots will be used with tubing line connections to the valves on the 'left' side of the carriage cover.

For 1x8 cartridge configuration, the 8-cartridge set has these colours: 4 = Light Magenta; 3 = Light Cyan; 2 = Medium Magenta; and 1 = Medium Cyan. The following illustration will help you identify each one of the stalls or slots on the carriage where the cartridges are installed.
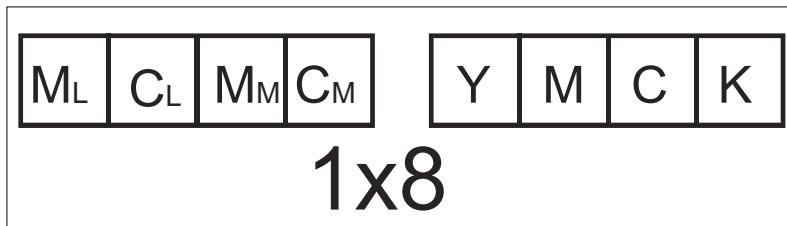
[10] Cartridge sets (1x8)

Inspect cartridges

Note: *Visually inspect each cartridge before installing. Make sure the blue tape is intact on the jet area [C] of the cartridge. (**Do not remove the tape at this time! The tape will be removed later.**) Inspect the cartridge recognition chip [B] on the cartridge. Make sure it is secure and in approximately the location shown on the following figure. If any cartridge is damaged, contact Océ for return/replacement of the defective cartridge.*
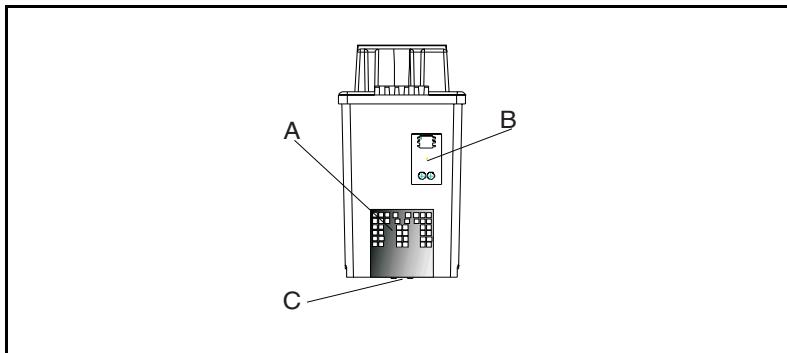
[11] Inspect cartridges

Place cartridges

When you place the cartridges, follow closely these precautions:

- Do not remove the blue tape from the cartridge until instructed to do so.
- Do not touch the jet area or the flex contact area of the cartridge.
- Work with only one colour at a time to avoid contamination.
- Respect the correct cartridge sequence, especially when using a 1x8 configuration (see 'Cartridge sets' on page 27).
- Check that the ink delivery lines are not twisted.

▼ **To place a cartridge**

1 With the printer powered on, press **Utility /Access menu/Access Left** (to place one of the cartridges 4, 3, 2, 1) or **Access Right** (to place one of the cartridges C, M, Y, K) to move the carriage into position for cartridge installation or replacement.

2 The cartridges are prefilled and preprimed. Remove the cartridge from the sealed bag and remove the shipping cap.

3 Place it bottom first into the correct slot on the carriage.
Note: *Do not remove the blue tape from the jet plate.*

4 Tilt the cartridge up until it clicks into place. Make sure the cartridge is firmly installed.

Prime the ink delivery lines ▶**Click for Video**

After filling the ink reservoirs, next step consists in priming each of the eight ink delivery lines to establish ink flow between the reservoirs and cartridges. You use the Océ Prime tool for this purpose. The Prime tool is a battery operated ink priming device used to draw ink through the ink delivery lines and for priming cartridges.

You perform this procedure once, the first time after you set up the printer. It is not necessary when refilling the reservoirs or replacing ink cartridges.
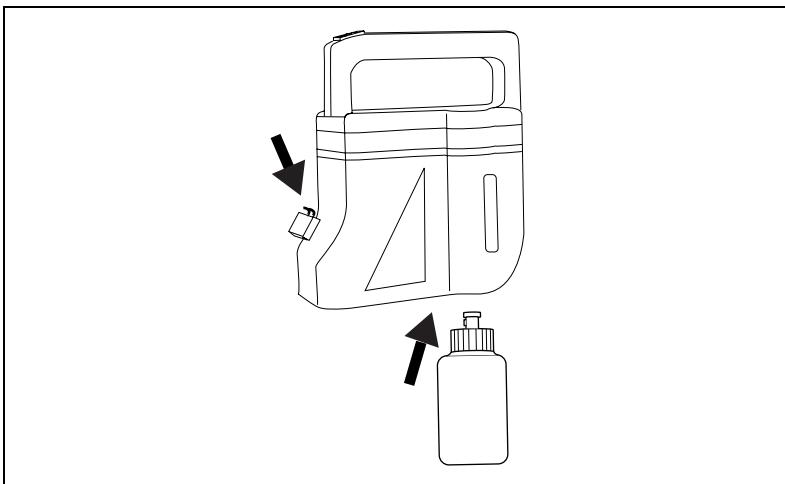
[12] Océ CS 5090 Prime tool

Your printer is equipped with shutoff valves for the ink delivery lines, on the carriage. When the valve is pushed to the upright position, the ink delivery lines are closed at the carriage. This maintains negative pressure while installing and priming ink delivery lines.

Note: *When priming delivery lines, be sure to wipe off any excess ink from the Océ Prime tool before going on to the next colour to avoid colour contamination.*

▼ **To prime the delivery lines**

1 Fill ink reservoirs (see 'To fill the ink reservoirs' on page 26). Do not exceed maximum level line.

2 Attach reservoir to appropriate ink delivery line by depressing quick connect tab and snapping reservoir into place.
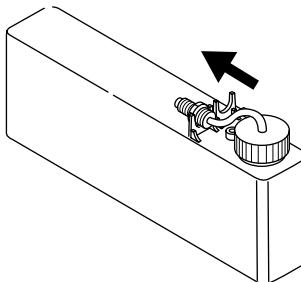
[13] Quick connect fitting

Note: *For right order to place the ink reservoirs, see sticker on carriage.*

3 Close the ink delivery lines by pushing the valve up on the carriage:
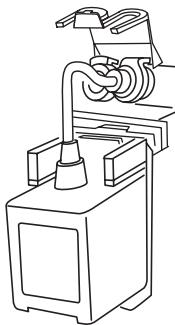
4 Insert the needle assembly connector into the fitting on the carriage. On the left set of cartridges, there are two connectors for each cartridge (one blue and one gray). Be sure the needle assembly is plugged into the same colour connector as in the ink reservoir.

5 Obtain the Océ CS 5090 Prime tool.

6 Open the ink delivery lines by pushing the valve down.

7 Prime each tubing/chain ink line by inserting the cartridge needle into the end of the Prime tool and press the button several times until a solid stream of ink is present throughout tubing.
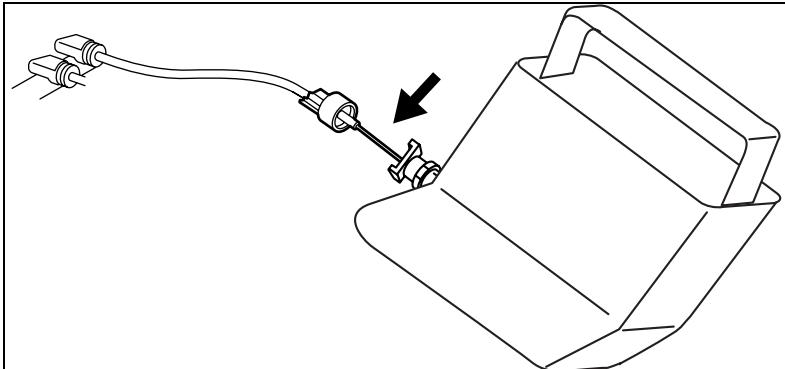
[14] Inserting the needle into the small opening of the Prime tool

8 Close the ink delivery lines by pushing the valve up and remove the cartridge needle from the Océ Prime Tool.

9 Insert the needle into the cartridge opening and tighten clockwise securely.
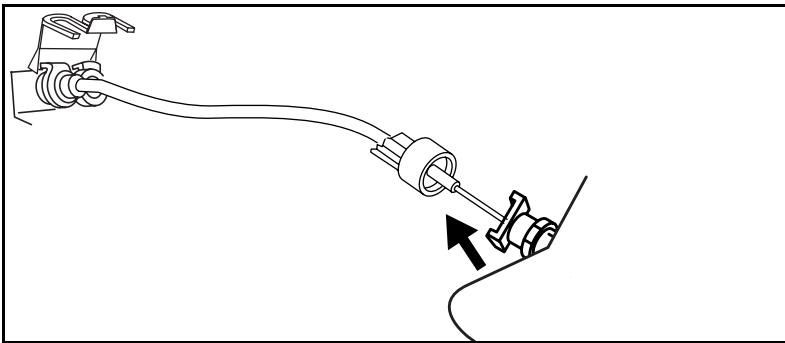
[15] Removing the cartridge needle

10 Tighten the fitting (about 1/4 turn) to prevent air leaks.

11 Push the valve down to open the delivery lines.
   Note: *The ink in the tubing-line will travel back up into the lines and not be visible in the tubing-line assembly. This is normal and expected. When printing, the cartridges will draw back the ink through the lines in the cartridges.*

12 Remove the cartridge from the carriage and remove blue tape from the cartridge jet plate.

Note: *Do not raise cartridge 30 degrees above electronics cover or turn cartridge upside down during the tape removal or priming process.*
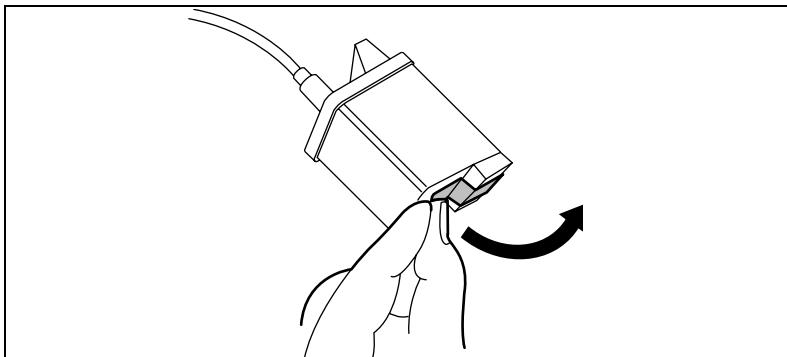
[16] Removing the blue tape from the cartridge jet plate

13 Attach the Prime tool to the cartridge jet plate and prime cartridge with pulses by pressing the activation button repeatedly.

Note: *A helpful method is to break the seal with the jet plate after each pulse to improve the priming success rate.*

▶**Click for Video**
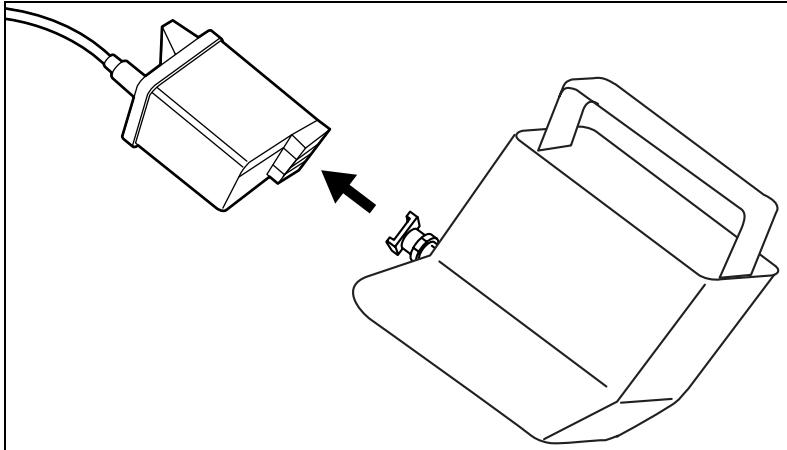
[17] Attaching the Prime tool to the cartridge jet plate

14 Blot jet plate with a lint-free towel or cloth.

▶**Click for Video**
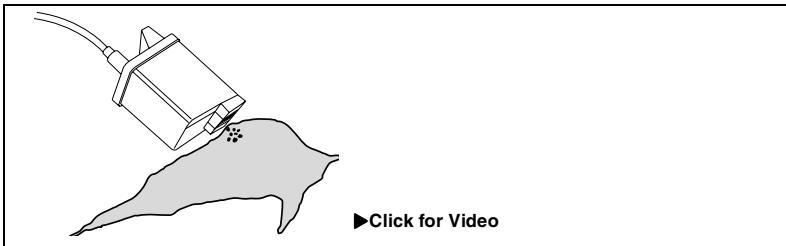
[18] Blotting the jet plate

15 Insert the cartridge into the carriage, making sure it snaps into place properly.
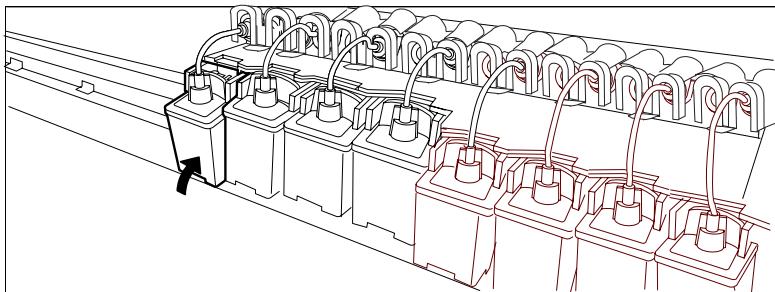
[19] Inserting the cartridge into the carriage

16 Repeat for each cartridge.

17 When all cartridges are ready, press **Utility menu/Access menu/Access Home** to return the carriage to the service station.

Run a colour test

An initial colour test checks for correct cartridge priming, to ensure that all colours print in a uniform and solid pattern.

▼ **To print the colour test**

1 Check that the printer has media loaded.
2 Press **Setup menu/Print Mode menu**.
3 Press **Print passes**.
4 Change to 2-pass mode using the **Next** or **Prev option** buttons.
5 Select **Utility menu/Service menu/Diagnostics menu/Colour Test menu.**

At this stage, you can choose between two different options:

■ Print a colour test for each colour separately, one after the other.
■ Print a colour test for all colours at the same time (only supported by firmware version 1.13 or above).

▼ **To print the test (colours one by one)**

1 Press **Stall select** to select the appropriate colour to test using the **Next** or **Prev option** buttons.
2 Press **Density select** to set the *colour test percentage to 100%.
3 Press **Colour test print**. Several print passes will initiate in the chosen colour, disregard the quality of the colour patterns.
4 Ensure each print passes completes.

▼ **To print the test (all colours at the same time**

Note: *The all colour test is only supported by firmware version 1.13 or above.*

1 Press **Density select** to set the colour test percentage to 100%.
2 Press **All Colour test** to initiate the test.

Note: *No ink starvation should be observed. If you notice ink starvation, re-prime the cartridge and check the ink level.*

Print the prime pattern

You print the prime pattern to check that the ink cartridges fire properly and to detect any clogged or electrically defective jets.

▼ **To print the prime pattern**

1 With media loaded, press **Utility** menu.

2 Select **Prime**.

A test pattern prints. The test pattern consists of four coloured double bands (Black + 1 or Medium Magenta, Cyan + 2 or Medium Cyan, Magenta + 3 or Light Magenta and yellow + 4 or Light Cyan), a series of lines and a CMYK header, indicating the compensating print modes for damaged jets. (See 'Compensate for electrically defective jets' on page 121.)

▼ **To interpret the prime test**

■ The bands should be smooth, without dark streaks or white lines. The lines should not look fuzzy or contain gaps.
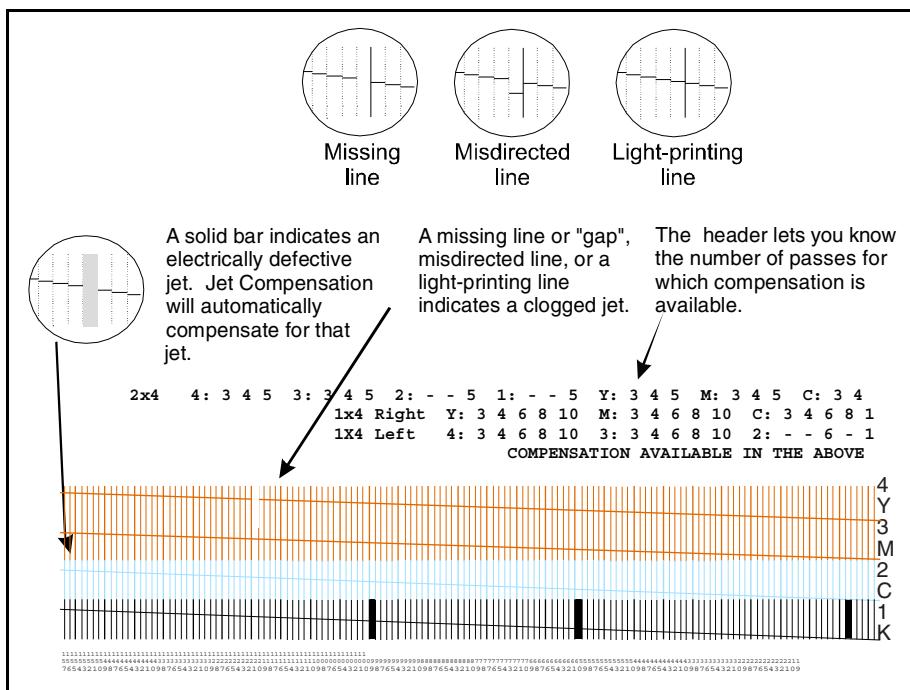
[20] The upper test pattern of a prime test

- Within the printed test pattern, each jet is represented by a short horizontal line. Together, these short horizontal lines form a "stair step" pattern.
- Electrically defective jets appear as solid bars for which you can compensate.
- Clogged jets appear as gaps or misdirected lines in the "stair step" pattern, which you clear manually.
- The print modes for which compensation is available are shown above the test pattern.
- In the above example, the prime test shows that there are three electrically defective jets and one clogged jet. The header indicates that you can compensate for the electrically defective jets in the 4-pass mode. But you must clear the clogged jet manually. See 'Clear clogged jets' on page 122 for further information.

Note: *If all jets appear to be defective, reinstall the cartridges.*

Cartridge recognition

The Océ CS 5090 printer is designed to use only Océ CS 5090 cartridges. To avoid potential damage to the printer, a **cartridge recognition** feature checks for properly installed Océ cartridges. This function activates when the printer receives a print request (i.e., image data, prime, etc.).

If the system detects a problem, the error message "Unrecognized Cartridge(s)" displays on the control panel, and the printer beeps three (3) times. You must clear this error before the printer can proceed with the print job.

▼ **To clear cartridge recognition error**

1 Press **Access menu/ Access Right** or **Access Left** to move the carriage to the correct position for replacement of the ink cartridges.
2 Check that there are four installed Océ cartridges.
3 Replace any invalid cartridge.
4 Press **OK**.

Note: *This error can also occur with incorrectly installed Océ cartridges, due to poor electrical connections between the cartridge and the carriage unit. Clean the flexcable [A] as well as the electrical contacts on rearside of cartridges. Special the contacts from the cartridge recognition chip [B].*
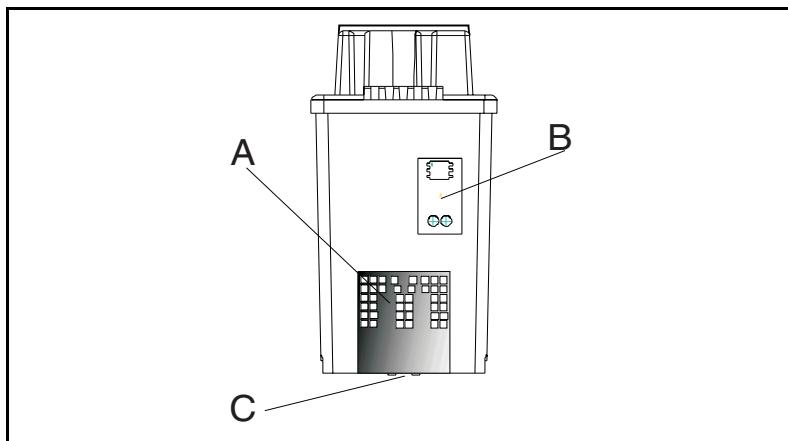
[21] Cartridge recognition

Align cartridges

For best results, perform a calibration each time you install a new cartridge.

Paper axis calibration

External factors such as room temperature, storage temperature, and humidity can have a deforming effect on media. A paper axis calibration corrects for minor paper length fluctuations, which you carry out using a precision ruler of at least 34 (850 mm) inches long.

▼ **To print the paper axis test**

1 Load the media that you want to use. Check that the length is at least 36 (91 cm) inches long.
2 Press **Utility/Calibration/Paper Axis Test**. The printer prints two marks.
3 Remove the media from the printer and measure the distance between the witness marks. The distance between the marks should be exactly 838.2 mm (33.00 ").
4 If the distance between the marks is different from that shown on the display, press **Paper Axis** to enter the value of the distance you have just measured.
   ■ Press **OK**.

Define calibration units

You can set the calibration units to English or Metric.

▼ **To set calibration units**

1 Select **Setup/User Setup/Units Select**.
2 Choose **English** or **Metric**.

Colour deadband calibration

When printing in bidirectional mode, the velocity of the carriage can cause certain dots to miss the target area on the media. To alleviate this problem, use the **colour deadband compensation** feature to fine-tune dot placement. The colour deadband test pattern lets you check the velocity deadband values and adjust them for best printing results.

▼ **To print the colour deadband test pattern**

1 Press **Setup/Utility**.

2 Select **Calibration/Colour Db menu/Colour Db test**. The following pattern prints out:
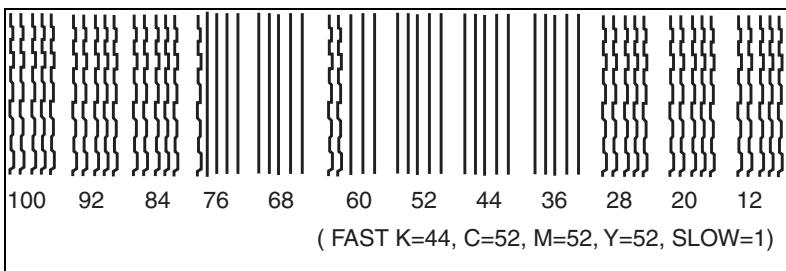
[22] Colour deadband test pattern

3 For each colour, examine the vertical lines and select the set of straightest lines. Note the compensation number at the bottom of the set of lines you have selected.

4 Compare with the existing compensation values printed in the lower right corner of the test pattern. If any of these differ from the values you selected, enter the new compensation values by pressing the button corresponding to the colour deadband you want to change.

5 Use the **Next** and **Previous option** buttons to scroll to the desired compensation value.

Cartridges calibration

▼   **To print a colour calibration test**

■ With paper loaded, press **Utility/Colour Calibration menu/ Vert. Calib Test** or **Horiz. Calib Test.**

The printer draws a series of seven horizontal patterns and seven vertical patterns as follows:

Current Heads (Y, M, C, 1, 2, 3, 4) shows yellow, magenta, cyan, 1, 2, 3, 4 "+" which represent the horizontal and vertical alignment between the cartridges.
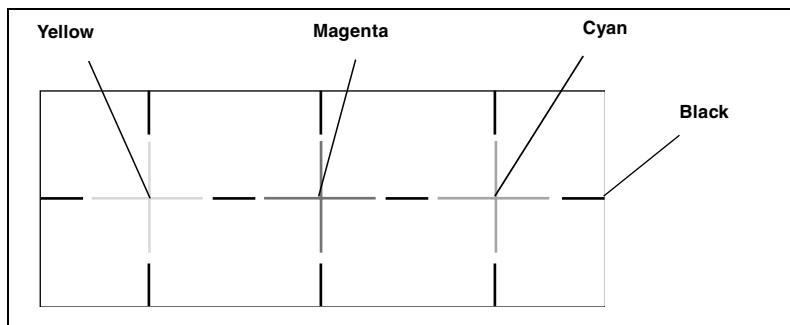
[23] Current Heads (Y, M, C)

When the coloured "+" lines up horizontally and vertically with the black alignment marks, no adjustment is required.

Colour Vertical Head-To-Head Calibration checks for vertical alignment.
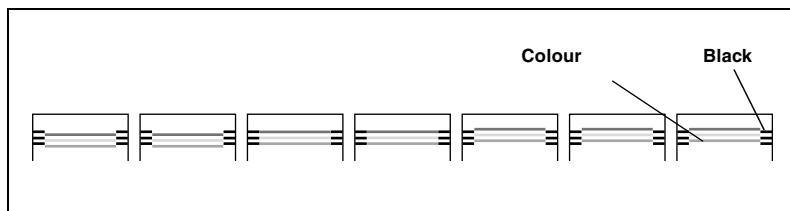
[24] Colour Vertical Head-to-Head Calibration

Colour Horizontal Head-To-Head Calibration checks for horizontal alignment. Three lines similar to the examples below are printed with the following colour combinations: 4/3, 3/2, 2/1, 1/yellow, yellow/magenta, magenta/cyan, and cyan/black.
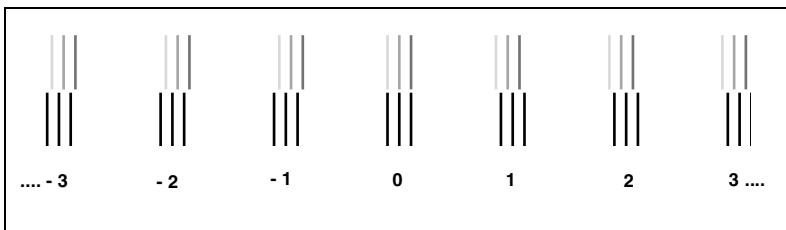
[25] Colour Horizontal Head-to-Head Calibration

The numbers below each set of lines represent the different horizontal and vertical alignment values.

▼   **To adjust colour calibration values**

1 Examine the patterns to determine which value shows the best horizontal and vertical alignment between cartridges. These are the values you will set in the printer menu.
2 Press **Vertical-Cyan**.
3 Enter the value which represents the best alignment for cyan vertical.
4 Press **OK**.
5 Repeat for Magenta, Yellow, 1, 2, 3, 4 vertical.
6 Repeat procedure for Cyan, Magenta, Yellow, 1, 2, 3, 4 horizontal.

Operate the printer

While the printer prints, you can stop it momentarily and then resume printing, or cancel a print.

▼ **To pause the printer while printing**

1 Press **Pause**.
2 Press it again to resume printing.
   Note: *Banding might occur.*

▼ **To cancel a print**

■ Cancel the print job from the computer using the appropriate command for your software application.

▼ **To clear the buffer after canceling a print**

■ Press **Reset**.

Chapter 3
Control panel

- *Menu functions*
- *Default printer settings*
- *Save user options*

Main menu at a glance

Main menu	Menu options	Next options (in italics) or function
Load media		Moves media into/away from platen
Cut		Cuts media
Pause		Stops print job temporarily
Reset		Clears print buffer after job cancellation
Feed Media Menu	Forward	Advances media to the front of printer
	Media Counter	Provides access to additional options where the length of a roll of media can be entered and the media counter reset.
	Display Counter	Displays a screen where the current value of the media length can be viewed and printed on the media.
	Backward	Moves media to the back of printer
	End Of Media	Provides access to another screen where the End of Media can be redefined to look for an abnormally long absence of the loop of media that occurs between the feeder roll and the platen.
	Exit	Returns to the main menu
Setup Menu	Print Mode Menu	Provides access to options for colour, quality, cartridge set, print passes, carriage speed and print direction.
	Paper Option Menu	Provides access to options for loading media, margins, media selection and other media features.
	Hpgl/2 Menu	Provides access to options for setting HP-GL/2 features.
	User Setup Menu	Provides access to options for defining and saving user settings.
	Ink Option Menu	Provides access to options for setting ink preheat, dryer on/off, and dry time.
	Exit	Returns to the main menu
Utility Menu	Prime	Prints the prime pattern
	Access Menu	Provides access to a further menu for options to move the ink carriage away from the service station to access left and right cartridge sets for installation/replacement of cartridges and the media cutter.
	Colour Calib Menu	Provides access to further menus for printing the colour calibration test pattern and for entering values determined by examining the test patterns.
	Calibration Menu	Provides access to a further menu for calibration options and diagnostics.
	Display Settings	Displays information such as paper width and height, on time, cumulative plot time
	Print Settings	Prints information about media size, firmware version, RAM size and plot hours
	Service menu	All items except the Colour Test are for use by technical support.
	Exit	Returns to the main menu

Menu tree

LOAD MEDIA — CUT — PAUSE — RESET — FEED MEDIA MENU

COLOR MODE — QUALITY MODE — DOTS PER INCH — CARTRIDGE SET — PRINT PASSES — CARRIAGE SPEED

FEED MEDIA MENU — FORWARD — MEDIA COUNTER — DISPLAY COUNTER — BACKWARD — END OF MEDIA — EXIT

SUPPLY TYPE — MEDIA STANDARD — MARGINS — AUTO-LOAD DELAY

PRINT MODE MENU — PAPER OPTION MENU — EXIT

PRINT DIRECTION — EXIT

AUTO-CUT — AUTO - CUT MENU — SAVE MEDIA — EXIT

SAVE USER — UNITS SELECT — AUTO - CUT DELAY — DELAY STATUS

SELECT USER — SAVE USER — LANGUAGE — INT SETTINGS — PRINT SETTINGS

UTILITY MENU — SETUP MENU

USER SETUP MENU — HP - GL / 2 — EXIT

INK OPTION MENU

LCD CONTRAST — EXIT

PALETTE SELECT — CONTROL — ROTATION — ACCESS MENU — PRIME

INK PREHEAT MENU — INK REDUCTION — NESTING MENU — AUTO-WIPE — DRYER — EXIT

REPRINTS — INK LIMIT — EXIT

COLOR CALIB MENU — CALIBRATION MENU — DISPLAY SETTINGS — PRINT SETTINGS — SERVICE MENU — EXIT

COLOR DB MENU — PAPER AXIS TEST — USE PAPER CALIB — OPEN JET MENU — PAPER AXIS — EXIT

CALIBRATION MENU — DIAGNOSTICS MENU — ABOUT — CARTRIDGE INFO — TEST PRINT — EXIT

ACCESSORY MENU — SERVO CYCLE TEST — SERVO PWM TEST — CARRIAGE TEST — COLOUR TEST MENU — CONTINUOUS TEST — EXIT

Use the default settings

The following table shows the factory default printer settings. You can print these settings for reference.

▼ **To print settings**

■ Press **Setup/User** and **Setup/Print Settings** to get a listing of current settings. Be sure to have paper loaded before you start.

▼ **To return to factory default settings**

■ Press **Setup menu/User Setup menu/Init Settings** buttons. All saved user settings return to default settings.

User Settings	Default	Other options
COLOUR MODE	Colour	Mono, Gray
CARTRIDGE SET	2x4	1x4 Right, 1x4 Left, 1x8
QUALITY MODE	Photo	Production, En-hanced, User
DOTS PER INCH	600	300
PRINT PASSES	8 (1x8) 4 (1x4) 3 (2x4)	1, 2, 3, 4,5, 6, 8, 10 (1x8) 1, 2, 3, 4, 6, 8, 10 (1x4) 1, 2, 3, 4, 5 (2x4)
CARRIAGE SPEED	10	1-10
PRINT DIRECTION	Bi	Uni
AUTO-LOAD DELAY	6	1-12 Seconds
MEDIA STANDARD	All	Us Engr, Us Arch, Iso A, Met All, Us All, Graphics, Met Over A, Iso B, Special
MARGIN	Normal	Expanded
AUTO-CUT	ON	OFF
AUTO-CUT DELAY	0	0:10,0:20,...60:00

User Settings	Default	Other options
SAVE MEDIA	ON	OFF
CALIB XY	ON	OFF
SELECT USER	1	1 To 8
SAVE USER	1	1 To 8
UNITS SELECT	English	Metric
LANGUAGE	English	German, French, Italian, Spanish, Portuguese, Japanese. Chinese, Korean
DRYER	OFF	Auto, On, Fans only
AUTO WIPE	OFF	ON

System settings	Default	Other options
SUPPLY TYPE	Take-up	Sheet, Roll, Roll 2
LCD CONTRAST	4	1-8
END OF MEDIA	Feeder Stop	Normal
MEDIA COUNTER	0	1-500 FT

Calibration settings	Default	Other options
DEADBAND (KCMY1234)	44	0 196
SLOW DEADBAND	0	-2 ... +2
VERTICAL (4321YMC)	0	-9 ... +9
HORIZONTAL (4321YMC)	0	-9 ... +9
PAPER AXIS	33.00	32 - 34

Save user options

You can save the most frequently used options to avoid reconfiguring the printer each time you print an image. You can define up to eight different configurations and save them under a user setting number ranging from 1-8. Select the desired user setting number before sending an image to the printer. You can save settings for the following options:

- Cut On or Off
- Media Standard
- Auto load delay
- Baud Rate
- Auto-Wipe On or Off
- Monochrome or Colour
- Drying Time
- Quality Mode
- Print Mode
- Margins
- Parity
- Dryer On/Off/Auto/Fans only

▼ **To save user-defined settings**

1 Press **Setup/User Setup/Save User**.
2 Scroll to the number under which you want to save the user settings.
3 Press **OK**.

▼ **To use a previously saved user setting**

1 Press **Setup/User Setup/Select User**.
2 Scroll to the number of the user setting you want.
3 Press **OK**.

Adjust the LCD contrast

The LCD contrast option lets you adjust the brightness of the control panel (with default setting 9). The contrast values range from 1-16, with 16 as the least contrast.

▼   **To set LCD contrast**

   1   Press **Setup/User Setup/LCD Contrast**.
   2   Choose the contrast value.
   3   Press **OK**.

Access printer information

The printer can provide you with information on the following:

- Plot area
- Memory
- Calibration settings
- "On time" is the total time the machine has stayed powered on
- "Plot time" is the total time the machine has been printing
- Firmware version

Note: *The On time and the Plot time are resetable by Océ service.*

▼ **To access printer information**
1 Select **Utility/Print Settings or Utility/Display Settings**.
2 Press the button for the item for which you want information.
3 Press **OK**.

Get cartridge information

The Service menu gives you information about the state of the current cartridges, such as details about the type and ink colour in each stall, and the extent of cartridge wear, with changes displayed in millimeters (by 2 ml increments).

- At 500 ml, you should replace the cartridge
- At 1280 ml, the cartridges stops functioning

▼ **To get cartridge information**
1 From the **Utility** menu, press **Service** menu.
2 Press **Cartridge Info**.

Chapter 4
E-Connect

The E-connect print server, included on the CS5090, offers a quicker and simpler connection of your printer to your computer.
This chapter is aimed at explaining how to connect and configure your printer for the E-connect.

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Prerequisites

To connect your printer, you need:

- a PC running Windows NT with 1 or 2 100Base-T NIC installed,
- a Windows NT Operating System CD Rom,
- an Océ CS 5090 printer including the E-connect,
- a parallel printer cable,
- a CAT5 crossover cable.

Connection

▼ **Connect the CS 5090 to the E-Connect**

1 Attach the provided parallel printer cable between the upper centronics parallel port of the printer and the lower parallel port on the right side of the E-Connect.

▼ **Connect the CS 5090 to your computer (using a crossover cable)**

1 Connect one end of the cable to the RJ-45 socket of the E-connect.
2 Connect the other end of the cable to your PC's second network card (NIC):
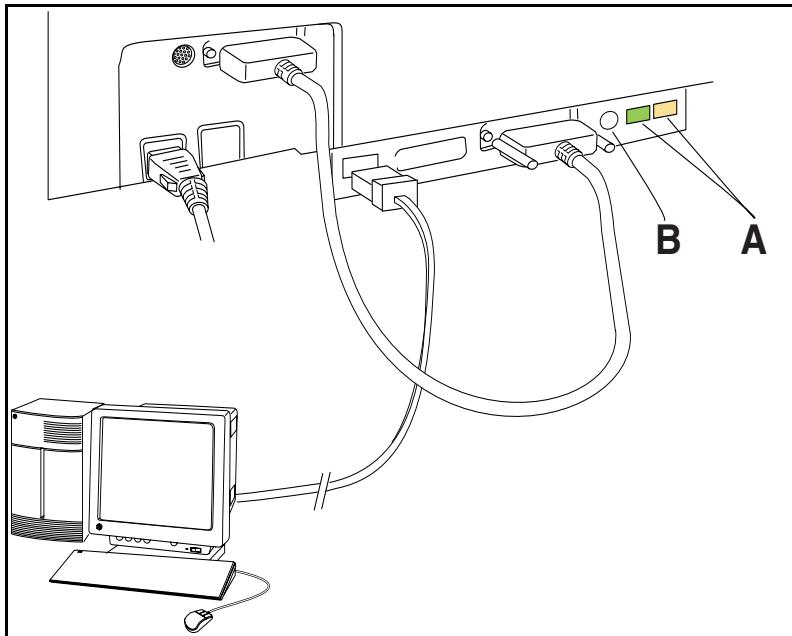
[26] Connect the CS 5090 to your computer via a crossover cable

3 Check the green and yellow lights [**A**] illuminate.
4 Activate an E-connect test by pressing the test key [**B**] with a pen tip or other small blunt tool and holding it no more than 3 seconds.

Caution: *If you press the button and hold it longer than 5 seconds, the E-connect resets automatically.*

5 If the network is working properly, the printer prints a circular pattern.

Semi-Circular
Nook
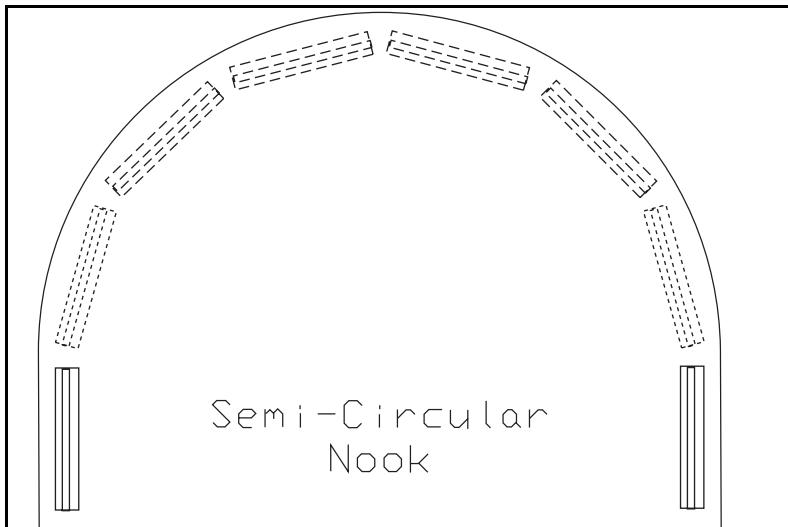
Configuration

▼ **Configure your computer**

1 On your desktop, right-click 'Network neighborhood'.
2 Select 'Properties' in the popup menu.
3 Click the 'Protocols' tab.
4 Double-click the TCP/IP item.
   Note: *If there is no TCP/IP, click the 'Add' button, select 'TCP/IP' among the list of protocols and click 'OK'.*
5 In the 'Microsoft TCP/IP Properties', click the 'IP Address' tab.
6 Select 'Specify an IP address'.
7 Set the IP Address to '192.0.0.193'.
   Note: *If you need to change the TCP/IP address, please contact your system administrator or your local Océ service organization.*
8 Set the 'Subnet mask' to '255.255.255.0':
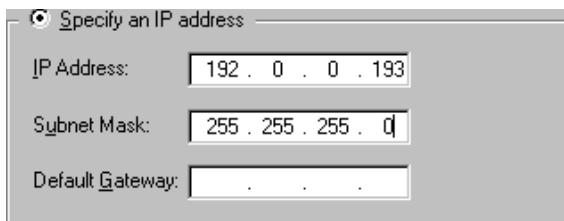
[27] Configure IP address

9 Click 'OK' and again 'OK'.
   Note: *When the configuration is complete, you may be prompted to insert your Windows Operation System CD Rom. If so, follow the instructions. At the end, reboot the computer as requested.*

Configuration of the E-connect printserver

The default TCP/IP address of the E-connect is '192.0.0.192'.

Note: *If you need to change this TCP/IP address, please contact your system administrator or your local Océ service organization.*

Chapter 5
Printing with HP-GL/2

This section explains the printing parameters generally used with vector-based files, such as palette selection, printer control, rotation, reprints, nesting, and ink limit.

Note: *HP-GL/2 and HP RTL are trademarks of the Hewlett-Packard Co. AutoCAD is a trademark of Autodesk, Inc.*

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Overview

The 'Draft' and 'Production' modes are the most suitable printing modes for line drawings or drawings with light solid fills typically created by computer-aided design.

When printing vector data, you can either control certain options from your software application or assign the control to the printer settings. The following section explains the HP-GL/2 print settings on the Océ CS 5090.

Access the HP-GL/2 menu options

The following menu options are available from the HP-GL/2 menu:

■ Palette select
■ Control
■ Rotation
■ Nesting menu
■ Reprints
■ Ink limit

▼ **To access the HP-GL/2 menu**

■ From the main menu, press **Setup menu/HP-GL/2 menu**.

Select the palette

The 'Palette select' option lets you choose either the HP-GL/2 or AutoCAD palette. Each palette allows 256 colours with 8 predefined colours, as shown below:

Pen number	HP-GL/2	AutoCAD
0	White	White
1	Black	Red
2	Red	Yellow
3	Green	Green
4	Yellow	Cyan
5	Blue	Blue
6	Magenta	Magenta
7	Cyan	Black

▼ **To choose a palette**

1 From the main menu, press **Setup menu**/**HP-GL/2 menu**/**Palette select**.

2 Choose either HP-GL/2 or AutoCAD.

3 Press **OK**.

Set the 'Control' function

You set control to establish whether it is the software application or the printer control panel that determine certain printing functions. Control overrides the following functions in the HP-GL/2 header file:

- ■ 'Repeat Plot' (RP): when you set control to the printer, the printer will ignore RP commands in the print file and output only one print. On the control panel, you can use the 'HP-GL/2/Reprints' menu to specify additional copies.
- ■ 'Enable Auto Cutter' (EC): when you set control to the printer, the printer will ignore EC commands in the print file, and does not cut automatically after each print. On the control panel, you can enable automatic cutting or initiate a command for a single cut.

Note: *Do not override software control when sending merged raster/vector data to the printer.*

▼   **To set control**

1 From the main menu, press **Setup menu/HP-GL/2 menu/Control**.

2 Choose either **Software** or **Printer**.

3 Press **OK**.

Rotate a print

The printer automatically prints an image with the long side on the paper axis. To fit multiple images and save media, you can use the 'Rotation' (RO) function to rotate vector files counter-clockwise 90 degrees at a time.

Note: *Only HP-GL/2 files support rotation. RTL files do not support rotation.*

When you use this setting, keep in mind the following principles:

- If you specify a rotation that does not fit on the media or contains raster images, the file will not rotate.
- When you set the rotation value to 'Auto', the algorithm automatically rotates the print if this will save media, whether or not you have enabled 'Nesting'.
- When you set the rotation value to '0', the print does not rotate.
- 'Control' does not override the RO command in the print file.

▼ **To rotate a print**

   1 From the main menu, press **Setup menu/HP-GL/2 menu/Rotation**.
   2 Choose the rotation angle (0, 90, 180, 270, Auto).
   3 Press **OK**.

Make reprints

You can print up to 99 copies of a specific vector file. When you set 'Reprint' to 0, only one copy prints.

▼ **To make reprints**

   1 From the main menu, press **Setup menu/HP-GL/2 menu/Reprints**.
   2 Choose the number of reprints (0 to 99).
   3 Press **OK**.

Ink reduction

Ink reduction lets you reduce the percentage of ink laid down by the printer. This feature applies only to HPGL/2 format images (vector-based images) and has no effect on continuous tone images. It is especially useful for images with large amounts of printed area and helps to avoid bleeding or oversaturating the media. It does, however, change the appearance of colours, so you may want to run a small test print.

▼ **To set ink reduction**
1 Press **Setup Menu/HP-GL/2 Menu/Ink Reduction**.
2 Choose a reduction percentage **- 0%,12.5, 25%, 37.5, or 50%**.
3 Press **OK**.

Nesting

The 'Nesting' function can save media by printing multiple prints across the horizontal width of the media. It also reduces the time required to print multiple prints.

When you enable this function, the printer accumulates HP-GL/2 files in a 'nest'. Printing begins when one of the following occurs:

■ The 'nest' is full, when no other image can fit across the media
■ The 'Nesting Wait Time' is up. This is the length of time during which the printer idles and waits for the current nest to fill.
■ The printer runs out of memory
■ The printer receives a print file with different print settings than those in the 'nest', such as:

■ Print quality
■ Number of passes
■ Print direction
■ Speed
■ Colour mode
■ DPI
■ Dry time
■ Margins
■ Wipe on/off
■ Media save

The following parameters do not affect nesting:

- Ink limit
- Reprints
- Automatic rotation
- Automatic cutting: if any print file in the nest has the cutter enabled, the printer cuts automatically when the nest finishes printing.

▼ **To enable nesting**

1 From the main menu, press **Setup menu/HP-GL/2 menu/Nesting**.
2 Choose either **On** or **Off**.
3 Press **OK**.

▼ **To set the 'nesting wait time'**

1 From the main menu, press **Setup menu/HP-GL/2 menu/Nesting**.
2 Select the **Nest Time** menu.
3 Choose the nest time (30 seconds, 1 minute, 2 minutes)
4 Press **OK**.

Apply the ink limit

The printer can limit the amount of ink laid down when printing polygon fills and wide vectors. This prevents bleeding when you print on inexpensive inkjet media. The default setting is 'on'. When you print on high quality media, turn off this setting.

▼ **To apply the ink limit**

1 From the main menu, press **Setup menu/HP-GL/2 menu/Ink limit**.
2 Choose **On**.
3 Press **OK**.

Print an HP-GL/2 test file

The printer's memory contains an HP-GL/2 test file to assist in diagnosing potential problems. The printed colours in this test file are the same RGB values defined in AutoCAD. Turn off the 'ink limit' setting to get AutoCAD colours on high quality media.

▼   **To print the test file**

■ From the main menu, press **Utility menu/Service menu/Test print**.

Chapter 6
Handling ink and media

Choose paper options

The following paper options are available:

- Supply Type
- Save Media
- Media Standard
- Margins
- Auto-Load Delay
- Auto-Cut

Supply Type

This setting allows you to select your supply options. The available options are:

- 'sheet' if you intend to use cut sheet stock,
- 'roll' if you are about to use roll paper on the upper roll feeder (no takeup available with this option.)
- 'roll2' if you are going to use roll paper with the lower roll feeder (no takeup available with this option.)
- takeup if you intend to use roll paper with the optional takeup system.

▼ **To choose supply type**

1 Press Setup 'Menu/Paper Option Menu/Supply Type'.
2 Choose the supply type.
3 Press 'OK'.

Media standard

When you print an image, you determine its size from the software application. Check that you have loaded the media that is wide enough to accommodate the image size because the printer automatically defines the print area based on the width of the loaded media. If length is a problem, use roll media. If the media width is smaller than the image size, the image may be truncated.

▼ **To choose the media standard**

1 Press 'Setup/Paper Option/Media Standard'.
2 Choose the size of media you are loading.
3 Press 'OK'.

Rollfeed media: sizes and maximum printing areas

	Paper size	Normal Print Area	Expanded Print Area
Graphic (U.S. Offset)			
A	8.5" x 11.0"	7.3" x 9.8"	8.1" x 10.6"
B	11.0" x 17.0"	9.8" x 15.8"	10.6" x 16.6"
C	17.0" x 22.0"	15.8" x 20.8"	16.6" x 21.6"
	19.0" x 25.0"	17.8" x 23.0"	17.6" x 24.6"
	20.0" x 28.0"	18.8" x 26.0"	18.6" x 27.6"
	22.0" x 26.0"	20.8" x 24.0"	20.6" x 25.6"
D	22.0" x 34.0"	20.8" x 32.8"	21.6" x 33.6"
	23.0" x 35.0"	21.8" x 33.0"	21.6" x 34.6"
	24.0" x 29.0"	22.8" x 27.0"	22.6" x 28.6"
	25.0" x 38.0"	23.8" x 36.0"	23.6" x 37.6"
	32.0" x 44.0"	30.8" x 42.0"	30.6" x 43.6"
E	34.0" x 44.0"	32.8" x 42.8"	33.6" x 43.6"
	35.0" x 45.0"	33.8" x 43.0"	33.6" x 44.6"
	36.0" x 45.0"	34.8" x 43.0"	34.6" x 44.6"
	40.0" x 50.0"	38.8" x 48.0"	38.6" x 49.6"
	48.0" x 65.0"	46.8" x 63.0"	46.6" x 64.6"
	50.0" x 65.0"	48.8" x 63.0"	48.6" x 64.6"
	54.0" x 65.0"	52.8" x 62.4"	53.6" x 62.8"
	60.0" x 65.0"	58.8" x 62.4"	59.6" x 62.8"
U.S. Architectural			
A	9.0" x 12.0"	7.8" x 10.8"	8.6" x 11.6"
B	12.0" x 18.0"	10.8" x 16.8"	11.6" x 17.6"
C	18.0" x 24.0"	16.8" x 22.8"	17.6" x 23.6"
D	24.0" x 36.0"	22.8" x 34.8"	23.6" x 35.6"
E	36.0" x 48.0"	34.8" x 46.8"	35.6" x 47.6"
U.S. Engineering			
A	8.6" x 11.0"	7.3" x 9.8"	8.1" x 10.6"
B	11.0" x 17.0"	9.8" x 15.8"	11.6" x 16.6"
C	17.0" x 22.0"	15.8" x 20.8"	16.6" x 21.6"
D	22.0" x 34.0"	20.8" x 32.8"	21.6" x 33.6"
E	34.0" x 44.0"	32.8" x 42.8"	33.6" x 3.6"

Paper size		Normal Print Area	Expanded Print Area
ISO-A			
A4	210 x 297 mm	180 x 267 mm	200 x 287 mm
A3	297 x 420 mm	267 x 390 mm	287 x 410 mm
A2	420 x 594 mm	390 x 564 mm	410 x 584 mm
A1	594 x 840 mm 625 x 880 mm	564 x 810 mm 595 x 815 mm	584 x 830 mm 615 x 825 mm
A0	841 x 1189 mm	811 x 1159 mm	831 x 1179 mm
METRIC-DIN			
A4	250 x 337 mm	220 x 307 mm	240 x 327 mm
A3	337 x 460 mm	307 x 430 mm	327 x 450 mm
A2	460 x 634 mm 610 x 860 mm	430 x 604 mm 580 x 795 mm	450 x 624 mm 600 x 805 mm
A1	634 x 881 mm 860 x 1220 mm	604 x 851 mm 830 x 1155 mm	624 x 871 mm 850 x 1165 mm
A0	881 x 1229 mm 1000 x 1414 mm 1189 x 1682 mm	851 x 1199 mm 970 x 1349 mm 1158 x 1617 mm	871 x 1219 mm 990 x 1359 mm 1179 x 1627 mm
ISO-B			
B3	250 x 353 mm	220 x 288 mm	240 x 298 mm
B3	353 x 500 mm	323 x 470 mm	343 x 490 mm
B2	500 x 707 mm	470 x 677 mm	490 x 697 mm
B1	707 x 1000 mm	677 x 970 mm	697 x 890 mm

Sheet media: sizes and maximum printing areas

Paper size		Normal Print Area	Expanded Print Area
Graphic (U.S. Offset)			
A	8.5" x 11.0"	7.3" x 9.0"	8.1" x 9.4"
B	11.0" x 17.0"	9.8" x 15.0"	10.6" x 15.4"
C	17.0" x 22.0"	15.8" x 20.0"	16.6" x 20.4"
	19.0" x 25.0"	17.8" x 23.0"	18.6" x 23.6"
	20.0" x 28.0"	18.8" x 26.0"	19.6" x 26.6"
	22.0" x 26.0"	20.8" x 24.0"	21.6" x 24.6"
D	22.0" x 34.0"	20.8" x 32.0"	21.6" x 32.4"
	23.0" x 35.0"	21.8" x 33.0"	22.6" x 33.6"
	24.0" x 29.0"	22.8" x 27.0"	23.6" x 27.6"
	25.0" x 38.0"	23.8" x 36.0"	24.6" x 36.6"
	32.0" x 44.0"	30.8" x 42.0"	31.6" x 42.6"
E	34.0" x 44.0"	32.8" x 42.0"	33.6" x 42.4"
	35.0" x 45.0"	33.8" x 43.0"	34.6" x 43.6"
	36.0" x 45.0"	34.8" x 43.0"	35.6" x 43.6"
	40.0" x 50.0"	38.8" x 48.0"	49.6" x 48.6"
	48.0" x 65.0"	46.8" x 63.0"	47.6" x 63.6"
	50.0" x 65.0"	48.8" x 63.0"	49.6" x 63.6"
U.S. Architectural			
A	9" x 12.0"	7.8" x 10.0"	8.6" x 10.4"
B	12.0" x 18.0"	10.8" x 16.0"	11.6" x 16.4"
C	18.0" x 24.0"	16.8" x 22.0"	17.5" x 22.4"
D	24.0" x 36.0"	22.8" x 34.0"	23.6" x 34.4"
E	36.0" x 48.0"	34.8" x 46.0"	33.6" x 46.6"
U.S. Engineering			
A	8.5" x 11.0"	7.3" x 9.8"	8.1" x 9.4"
B	11.0" x 17.0"	9.8" x 15.0"	10.6" x 15.4"
C	17.0" x 22.0"	15.8" x 20.0"	16.6" x 20.4"
D	22.0" x 34.0"	20.8" x 32.0"	21.6" x 32.4"
E	34.0" x 44.0"	32.8" x 42.0"	"33.6" x 42.4"

Paper size		Normal Print Area	Expanded Print Area
ISO-A			
A4	210 x 297 mm	180 x 247 mm	200 x 257 mm
A3	297 x 420 mm	267 x 370 mm	287 x 380 mm
A2	420 x 594 mm	390 x 544 mm	410 x 554 mm
A1	594 x 840 mm	564 x 791 mm	564 x 801 mm
A0	841 x 1189 mm	811 x 1139 mm	831 x 1149 mm
METRIC-DIN			
A4	250 x 337 mm	220 x 287 mm	240 x 297 mm
A3	337 x 460 mm	307 x 410 mm	327 x 420 mm
A2	460 x 634 mm	430 x 580 mm	450 x 694 mm
A1	634 x 881 mm	604 x 831 mm	624 x 841 mm
A0	881 x 1229 mm	851 x 1179 mm	871 x 1189 mm
ISO-B			
B3	353 x 500 mm	323 x 450 mm	343 x 460 mm
B2	500 x 707 mm	470 x 657 mm	490 x 667 mm
B1	707 x 1000 mm	677 x 950 mm	697 x 960 mm

Set margins

You can set margins to 'Normal' or 'Expanded'. Any part of the image that extends outside the margin will be clipped.

The 'Expanded' setting enlarges the print area and decreases the margins.When using this setting, check that you align the media accurately using the guide on the right of the platen so that the ink doesn't exceed the edge of the media.

The following tables give the margin sizes for cut sheet and roll feed media:

Cut sheet media	On three sides	Fourth (bottom) side
Normal	15 mm (0.6")	35 mm (1.4")
Expanded	5 mm (0.2")	35 mm (1.4")
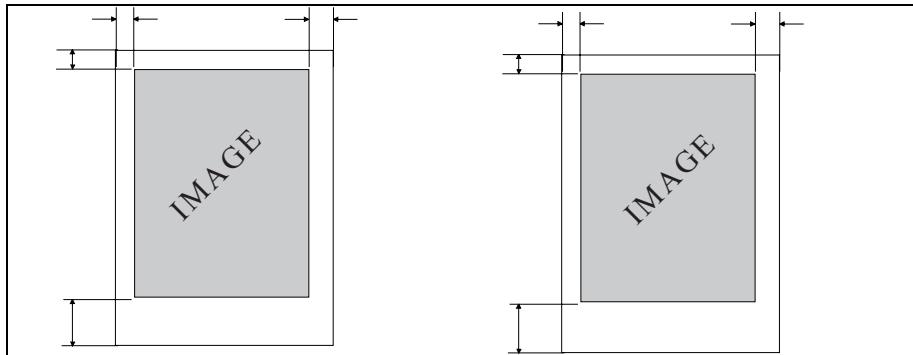
[28] Cut sheet normal margins and expanded margins

Rollfeed media	All sides
Normal	15 mm (0.6")
Expanded	5 mm (0.2")
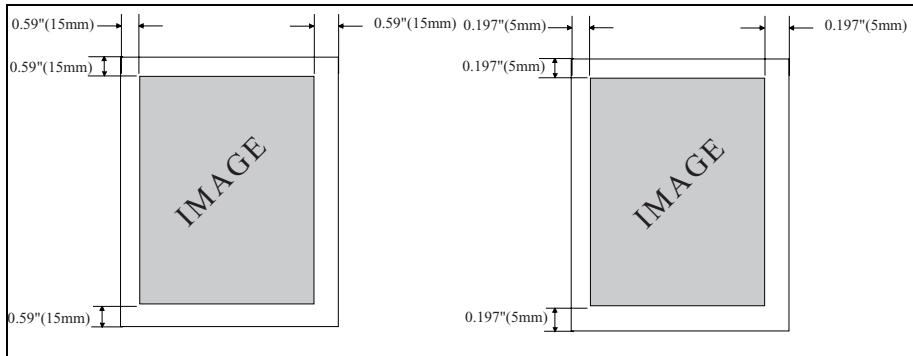
[29] Roll sheet normal margins and expanded margins

▼ **To set margins**

1 Press 'Setup/Paper Option/Margins'.
2 Choose 'Normal' or 'Expanded'.
3 Press 'OK'.

Set auto-load delay

Auto-load delay is the time lapse between the moment the printer senses the presence of the media and when it actually starts feeding the media. This gives you time to reposition manually the media if necessary. The default is 6 seconds, selectable from a range of 1-12 seconds.

▼   **To set auto-load delay**

1   Press 'Setup/Paper Option/Auto-load delay'.
2   Choose the delay time.
3   Press 'OK'.
Note: Only stored in memory in combinatio*n with a user-defined setting.*

Select auto-cut

With the 'Auto-cut' option activated (by default), the printer automatically cuts the media when printing completes. To ensure that the image is dry before cutting, turn on the dryer and/or specify a dry time. You can also select to cut the media manually from the printer control panel at any time.

Note: *Auto-cut is disabled when the paper feed option is set to take-up''.*

▼   **To set auto-cut**

1   Press 'Setup/Paper Option/Auto-Cut menu/Auto-Cut'.
2   Choose 'On' or 'Off'.
3   Press 'OK'.

Select auto-cut delay

Auto-cut delay is the time lapse before the printer automatically performs the Auto-cut function. It provides additional time for unattended prints to dry. In addition, you may need to delay auto-cut depending on the media used, the ambient temperature and the humidity. Auto-cut values range from 0 to 55 seconds in five second intervals and from 1 to 60 minutes in one minute intervals. Once the delay time has expired, the printer rolls or cuts the image and begins printing the next image in the buffer. Auto-cut delay is ignored if Auto-cut is set to 'Off'.

▼ **To set Auto-cut delay**

1 From the 'Setup menu', 'select Paper Option menu/Auto-cut menu'.
2 Press 'Auto-cut delay'.
3 Choose a time using the 'Next/Prev option' buttons.
4 Press 'OK'.

Delay status

Delay status allows users to view the time remaining before Auto-cut and to cancel the remaining delay time if needed. A countdown timer displays time left in minutes and seconds. Reset counter forces the count to zero and the printer initiates the Auto-cut immediately.

▼ **To reset counter**

1 From the 'Setup menu', 'select Paper Option menu/Auto-cut menu'.
2 Press 'Delay status'.
3 'Select Reset Counter'. 'Auto-cut' is initiated.

Save media

With the 'Save media' option activated (by default), the media advances only far enough to print the image. When not activated, the printer advances the full print area of the loaded media. For example, if a 36 inch roll is loaded, the printer advances the entire print area for a standard 36 x 48" sheet, even if the printed image is only 30 inches long.

▼ **To turn off Save Media**

1 Press 'Setup/Paper Option/Save Media'.
2 Choose 'Off'.
3 Press 'OK'.

Choose "feed media" options

The printer's 'Feed media' options allow you to:

■ set the "end of media" detection
■ use the media counter to estimate the remaining media length

Detect the "end of media" ▶Click for Video

'End of media' enables to detect the end of roll, in order to prevent the printer from printing on the platen unit.

When the media jams or does not unroll properly from the feeder roll, it cannot advance through the printer. Yet the carriage sensor still detects the presence of media, and printing progresses. This damages the print job because the printer continues to lay down ink on the same portion of media.

The "End of media/Feeder stop" option can limit the damage in these cases. When the printer detects an abnormally long absence of the media loop between the feeder roll and the platen, it automatically enters the "pause" mode, as if you had manually pressed "Pause" on the control panel menu.

The printer beeps 3 times every 20 seconds, and remains in the "pause" mode until you either:

■ manually press "Pause" to resume printing ("Pause" is a toggle function)
■ manually press "Reset" to abort printing. Abort the print job from the software application as well.

When you use this setting, keep in mind the following principles:

- This setting does not work with cut sheets as the selected media
- This setting is a machine setting and therefore activates each time you switch on the printer, until you manually turn it off from the control panel menu
- You cannot store this setting as a user setting
- You cannot change this setting once printing begins
- When you manually press "Pause" to resume printing, the "Feeder stop" detection disables for the remainder of the print
- When activated, the "Feeder stop" detection restarts at the beginning of each print.

▼ **To set the "Feeder stop"**

1 Press 'Feed Media/End of Media'.
2 Choose 'Feeder Stop'.
3 Press 'OK'.

Use the media counter

The media counter gives you a means of "estimating" the length of media left on a roll.

- When you install a new roll (or used roll of media with a known length), you enter the length in the media counter on the control panel.
- As the printer uses up the media, this value decreases and displays on the control panel.
- When you remove the media roll, you can print the estimated remaining length on the roll, and enter this value in the media counter the next time you use this roll.

▼ **To enter a media length value**

1 Press 'Feed Media/Media counter'.
2 Enter the media length.
3 Press 'OK'.

▼ **To display the media length value**

1 Press 'Feed Media'.
2 Then, select 'Display counter'. The current value appears.

▼　**To print the media length value on the roll**

1 Press 'Feed Media/Display counter'.

2 Press 'Print counter'.

▼　**To reset the media counter to 0**

1 Press 'Feed Media/Media counter'.

2 Press 'Reset counter'.

3 Press 'OK'.

When you use this setting, keep in mind the following principles:

- Reset the media counter to 0 to avoid confusion when not in use
- The media counter does not decrease below 0
- This setting is a machine setting and therefore activates each time you switch on the printer, until you manually turn it off from the control panel menu
- You cannot store this setting as a user setting

Ink

Refill ink reservoirs

▶**Click for Video**

Keep the reservoirs (on the left side of the printer) always filled with ink. You can refill them at any time, even while printing. If a reservoir runs out of ink, the ink delivery lines will deprime and may make the ink leak, and cause damage to the ink cartridges and the carriage electronics. When refilling ink reservoirs, take these precautions:

■ Have paper towels handy
■ Wear disposable gloves.
■ Open only one reservoir at a time to prevent an ink colour from accidentally contaminating another.

Attention: *Use of inks other than those supplied by Océ may cause damage to your printer.*

▼ **To fill ink reservoirs**

1 Access the reservoirs on the left side of the printer.
2 Remove the cap from the reservoir you want to fill.
3 Check that the ink colour and type in the bottle and the one in the ink reservoir match.
4 Pour the ink into the reservoir to approximately 1/2 inch from the top. Do not overfill.
5 Replace the cap on the reservoir.
6 Repeat steps 2 to 5 for the remaining reservoirs.

Use the dryer

To ensure prints are dry for unattended printing, the CS5090 features a new thermal drying system. The system monitors the ambient temperature and humidity. From these measures, it adjusts the heat in order to optimize drying time and ensure image quality.

Four different modes are available:

- 'Off': when this mode is selected, the dryer firmware is active (it monitors the ambient temperature and humidity) but does not take into account any printing operation. In this case, the dryer is not activated.
- 'On': when this mode is selected, it applies maximum dryer output temperature for every print job, whatever the ambient temperature and humidity is.
- 'Auto': when this mode is selected, the dryer firmware monitors the ambient temperature and humidity and calculates the best drying time to apply for each print job. It can also increase the output temperature whenever the print job requires it (for e.g., when a chosen print mode results in an increasing print speed, the increase is automatically detected by the firmware which adjusts the drying time consequently).
- 'Fans only': when this mode is selected, the dryer is working but without the heaters switched on. It is blowing only cold air. It is advised to select this mode when using specific media that do not support heating. Blowing cold air prevents the media from curling and deforming.

Note: *For more details about the media, please refer to the Media Product Information Sheets on www.oce.com.*

Caution: *Never connect the dryer data cable when the dryer power cable is connected. Always unplug the dryer power cable before connecting the data cable. When connecting or disconnecting dryer power cord or dryer data cable, the printer power switch MUST be in the Off position. Failure to follow these instructions may damage the printer.*

Attention: *Never open the dryer. There are no user serviceable parts inside.*

Caution: *Once the dryer is plugged in, there is continuous power to the dryer, even when the printer is turned off.*

▼   **Select the dryer mode**
1 Select 'Setup menu/Ink option menu/Dryer'.
2 Choose the dryer mode (Off/On/Auto/Fans only) by pressing 'Next option' or 'Previous option'.
3 Press 'OK'.
  Note: *When the dryer is activated, drying continues even after the print is finished, and as a consequence, the printer cannot be accessed until drying is finished.*

Select auto-wipe

By default, this options is not activated. When 'on', the printer automatically wipes the cartridge jet plates periodically during printing. However, you can de-activate this setting if you are having problems with banding.

Note: *Not wiping the cartridge jet plates can cause clogging of the inkjets.*

▼ **To turn on the wiper**

1 Press 'Setup menu/Ink Option menu/Auto-Wipe'.
2 Choose 'On'.
3 Press 'OK'.

Change ink types

When you use a new ink type (i.e. from Océ Standard Colour ink to Océ Outdoor Colour ink), you must change the reservoirs and the cartridges to match the new ink type. If you are printing with only two different types of inks using two sets of ink lines, you can use the colour coded quick connect fittings to change ink types. However, if you use only one set of ink lines for different ink types, you must purge and rinse the ink delivery lines with distilled water.

Attention: *For best results when changing inks, keep in mind these precautions:*

■ 'Do not' use Océ Standard Colour inks with Outdoor media or vice versa.
■ 'Never' mix inks.
■ Use only inks developed for the Océ CS 5090 printers.

When changing ink types, you must do the following:

■ Remove and store ink cartridges
■ Remove and store ink reservoirs
■ Install new ink reservoirs
■ Install new ink cartridges

Remove and store ink cartridges

This procedure explains how to remove, store and reuse cartridges. Following this procedure will extend the life of your cartridges and prevent ink from leaking from the cartridges.

Note: *If you lay down a cartridge with ink in it, lay it on its front side so that the flex contacts face up. This prevents ink from leaking out either the top opening or out the jet area on the bottom. Do not touch the flex contact area of the cartridge.*

▼ **To remove and store cartridges**

1 On the printer control panel, press 'Utility Menu/Access Menu/Access Right'. This moves the carriage away from the service station and enables you to easily remove the right cartridges (YMCK). To remove the left cartridges (1234), select 'Access Left'.

2 Disconnect the cartridge tube from the carriage by lifting up on the valve cover and removing the septum fitting from the valve connection. Leave the valve cover in the up position to.

3 Remove the cartridge from the carriage by gently pulling the top edge toward you, then lifting it out of the carriage. 'Do not remove the cartridge tube from the cartridge'. Leaving the tube fitting attached to the cartridge will maintain the negative pressure inside the cartridge that is required for proper operation. It also prevents the cartridge from leaking.
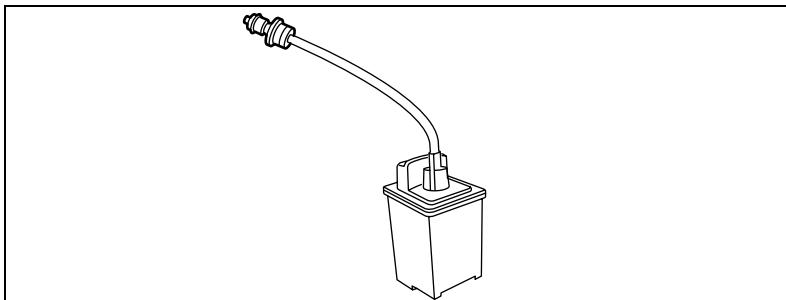
[30] Leaving the tube fitting attached to the cartridge

4 Wipe any ink from the septum fitting at the end of the tube using a lint-free cloth.

5 Insert the cartridge into the cartridge garage. Make sure that the cartridge cap lip snaps and locks into the cartridge locking tab. This will assure a good seal.

6 Repeat the previous steps for the remaining cartridges.

Remove reservoirs

▼ **To remove the reservoirs**

1 Remove all ink cartridges before removing the ink reservoirs.

2 Access the reservoirs on the left side of the printer. Leave on the reservoirs caps.

3 Disconnect the quick connect fitting for each reservoir, noting the colour of the fitting to which it was connected.

4 Slide each reservoir forward to remove it from the printer.

5 Store the reservoirs away from direct sunlight in an environment similar to that of the printer.

6 Replace with new reservoirs.

7 Fill the reservoirs with the appropriate ink and attach to the other set of quick connect fittings (not used for the previous type of ink).

Install new cartridges

Your printer uses cartridges that were specifically designed for it. They are not compatible with cartridges designed for other printer models. Use of other cartridges may damage the printer and/or prevent it from printing. Ink cartridges ship prefilled with ink. Be sure all cartridges and reservoirs use the same ink type.

▼ **To install ink cartridges**

Note: *Do not touch the jet area or the flex contact area of the ink cartridge. Work with only one ink colour at a time to prevent contamination.*

Caution: *Never manually move the carriage when the printer is on. Injury can result from unintentional carriage movement.*

1 With printer power on, press 'Utility Menu/Access Menu/Access Left' or 'Access Right' to move the carriage to the position which allows replacement of the ink cartridges (use Access Left if you are working on the left bank of cartridges or Access Right for the right bank of cartridges).

2 Cartridges are prefilled and preprimed. Remove the cartridge from the sealed bag and remove the shipping cap.
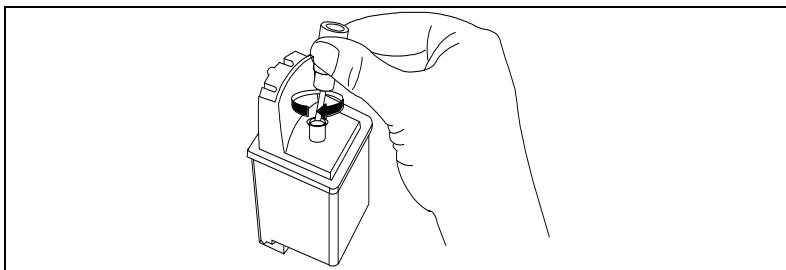
[31]

3 Install the cartridge bottom first into the correct slot on the carrier.

Caution: *Do not remove the blue tape from the jet plate*

4 Tilt the cartridge up until it clicks into place. Make sure the cartridge is firmly seated.

5 Close the ink delivery lines by pushing the valve up.

6 For every cartridge, insert the needle assembly connector into the fitting on the carriage.

7 Open the ink delivery lines by pushing the valves down.

Refill ink cartridges

New Océ cartridges are prefilled with ink. However, if you must re-install a used or empty cartridge, make sure that the ink level in the cartridge is exactly 20 ml. Any other level (above or below 20 ml) can interfere with the continuous ink refilling process to the cartridges during printing.

To refill a used cartridge with the correct level of ink, use the syringe and hose provided. The hose length of the syringe is 40 mm.

Note: *This 40 mm length guarantees the correct amount of ink when you insert the hose completely into the cartridge.*

If you do not know the amount of ink in the cartridge, proceed as follows:

1 Draw excess ink from the cartridge.
2 Refill the cartridge.

▼ **To fill an empty cartridge**

1 Fill the syringe with 20 ml of ink.
2 Attach the hose to the syringe.
3 Insert the hose into the cartridge.
4 Empty the syringe contents into the cartridge.

▼ **To draw excess ink from a cartridge**

1 Insert the hose of the empty syringe into the cartridge.
2 Draw excess ink from cartridge. The level of remaining ink is now exactly 20 ml.
3 Remove syringe.

▼   **To refill a cartridge**

1 Fill the syringe with 20 ml of ink.
2 Attach the hose to the syringe.
3 Insert the hose into the cartridge.
4 Empty the syringe contents into the cartridge.
5 Draw any excess ink from cartridge. The level of remaining ink is now exactly 20 ml.
6 Remove syringe.
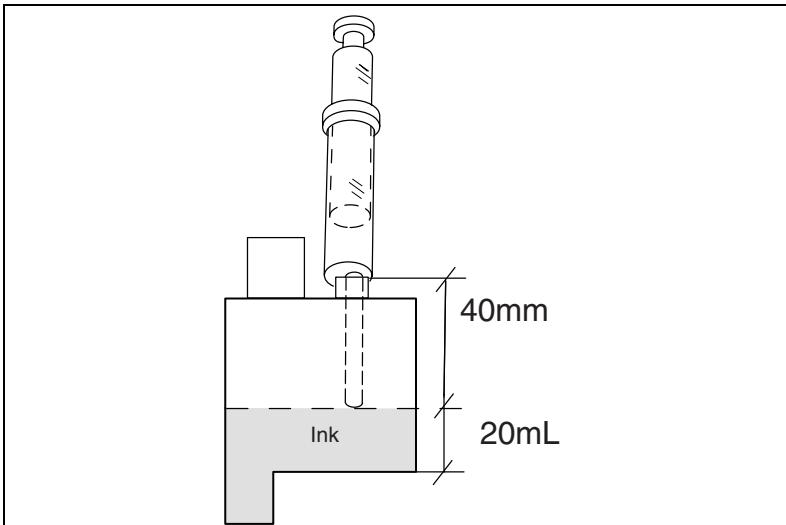
[32] Refilling cartridge to correct ink level

Purge ink delivery lines

If you are using one set of ink lines for several ink types, you must purge the ink lines and rinse them with distilled water thoroughly before changing to a new ink type. You will then have to reprime the lines as described (see 'Prime the ink delivery lines' on page 30).

1 Remove all eight cartridges before purging the ink lines.
2 Place cartridges in the plastic garages and close the lids.
3 Open the ink delivery lines pushing the valves down.
4 Remove reservoirs, including connectors.
5 Fill one reservoir with distilled water and place it in the printer, connecting it with its corresponding cartridge.
6 Connect the Océ Prime tool to a connector at the cartridge side and turn it on until distilled water is coming through the ink line. Now, the line is clean.
7 Empty the reservoir filled with distilled water and reconnect it.
8 Use again the Océ Prime Tool to remove the water left within the ink line.
9 Repeat the same procedure for all the lines.

Select ink preheat

Cartridge preheat settings are optimized for media being printed in a standard office environment. If you are experiencing banding, poor fills, or over dot gain, and you have tried all other means to correct these conditions, you may want to experiment with the ink preheat settings. These will vary depending on the ambient temperature where the printer is located and the media and ink used.

Defaults for the heater setting are determined by the ink type in use. Default = 0 for each cartridge. This does however not mean that the absolute values are the same for each cartridge. 0 for Magenta might be a different setting as 0 for Cyan. The printer determines the ink type by reading the chip on the back of each cartridge. When you adjust the ink settings, you are increasing or decreasing the heat from the default temperature. Pressing the 'Previous' and 'Next' buttons increases or decreases the temperature. When you have reached the limits of the temperature range, the panel will display either MAX or OFF. These settings are saved in the printer. If you change to a different type of ink, you may need to change the heater settings to accommodate the new ink type.

If you are working in a cold or dry environment, try turning the heat up for a larger dot size. If the heat is turned up too far, the ink may run or sputter. If you are working in a humid or hot environment, turn the heat down for a smaller dot size.

You can set preheat values for each cartridge in the Left and Right cartridge sets. The following example sets the preheat value for cartridge 4 of the Left cartridge set.

▼ **To set the ink preheat value for cartridge 4 of the left cartridge set**

1 Press 'Setup Menu/Ink Option Menu/Ink Preheat Menu/Left/4 Preheat'.
2 Choose a preheat value.
3 Press 'OK'.

The following example sets the preheat value for cartridge Y of the Right cartridge set.

▼ **To set the ink preheat value for cartridge Y of the right cartridge set**

1 Press 'Setup Menu/Ink Option Menu/Ink Preheat Menu/Right/Y Preheat'.
2 Choose a preheat value.
3 Press 'OK'.

Note: *Changing the preheat setting will change the drop size and therefore the colour appearance. In order to avoid colour changes perform a colour calibration / linearisation on your software (OGSL or OCC, for instance).*

Chapter 7
Quality

This chapter is aimed at describing the different quality and print modes available on the CS5090:

- *Quality mode*
- *Colour mode*
- *DPI mode*
- *Print passes*
- *Carriage speed*
- *Print direction*

Choose a print mode

Your printer offers four quality modes, three of them pre-defined, which let you make trade-offs between speed and quality.

The quality mode you use depends on various factors, such as your software application, whether you're printing in colour or monochrome, and the type of media you're using. Each quality mode directly affects the printing speed and quality of the image you print, so you should understand the differences.

Each of the quality modes attempts to strike a balance between speed and quality. The default quality mode, Photo, provides quality images at a reasonable printing speed for most users. Whenever you choose a print mode other than Photo, you will choose to emphasize either speed or quality.

The quality modes include the following print mode options:

- Colour mode
- DPI mode
- Print passes
- Carriage speed
- Print direction

Selecting the User quality mode will allow you to set each of the print mode options individually. Quality modes are summarized in the table which follows. It is not necessary to set all the parameters, unless you want to create a user-defined print mode.

The 8-heads CS 5090 enables to choose between four different cartridges sets: 1x4 Left, 1x4 Right, 2x4 or 1x8. According to the cartridges sets you select, the quality modes available will be different.

Note: *Make sure you choose the cartridge set before selecting a quality mode.*

Quality Modes for 1x4 Right and 1x4 Left Cartridge Sets

Quality mode	Colour Mode	Dots per Inch	Print Passes	Carriage Speed	Print Direction
Production	**Colour**	**600**	**2**	**10**	**Bi**
Photo	**Colour**	**600**	**4**	**10**	**Bi**
Enhanced	**Colour**	**600**	**6**	**10**	**Bi**
User	**User Defined**				

Quality Modes for 2x4 Cartridge Sets

Quality mode	Colour Mode	Dots per Inch	Print Passes	Carriage Speed	Print Direction
Production	**Colour**	**600**	**2**	**10**	**Bi**
Photo	**Colour**	**600**	**3**	**10**	**Bi**
Enhanced	**Colour**	**600**	**4**	**10**	**Bi**
User	**User Defined**				

Quality Modes for 1x8 Cartridge Sets

Quality mode	Colour Mode	Dots per Inch	Print Passes	Carriage Speed	Print Direction
Production	**Colour**	**600**	**2**	**10**	**Bi**
Photo	**Colour**	**600**	**4**	**10**	**Bi**
Enhanced	**Colour**	**600**	**6**	**10**	**Bi**
User	**User Defined**				

Select cartridge sets

▼ **Select one of the cartridge sets**

1 Press **Setup Menu/Print Mode Menu/Cartridge sets.**

2 Choose **1x4 Left, 1x4 Right, 2x4 or 1x8** using **Next option/Prev option.**

3 Press **OK.**

Select quality modes

There are four print quality modes:

Production - This setting is useful for fast, better than average quality printing on paper media (for e.g.: CAD/GIS).

Photo - For high quality continuous tone images where quality is more important than printing speed. (Default)

Enhanced - This is the best pre-defined quality mode.

User defined - Allows you to set each one of the print mode options individually to meet your unique requirements.

▼ **To choose print quality**

1 Press **Setup Menu/Print Mode Menu/Quality Mode.**

2 Choose the desired quality.

3 Press **OK.**

Select a colour mode

Colour mode refers to whether you are printing in colour or monochrome.

To choose the colour mode

1 Press **Setup Menu/Print Mode Menu/Colour Mode.**
2 Choose **Colour, Mono** or **Gray.**
3 Press **OK.**

Select resolution (dpi)

Select your image resolution based on the viewing distance and user specifications. This resolution is not the same resolution as in the resulting rasterised file created with OGSL. For best results, check that the printer resolution (dpi) matches the image resolution of the file you are printing.

Note: *Even though a rasterized image at 600 dpi is four times larger than the same image at 300 dpi, the printing speed does not change (if other settings are the same.) The printer always prints at 600 dpi, even if the print mode menu setting displays 300 dpi. This setting refers to the resolution at which your image was created, and not the actual resolution at which it prints.*

Note: *OGSL automatically corrects for images with different input resolutions.*

RIP resolution	Printer dpi setting	Result of printed output image	
300 dpi	300 dpi	1 input pixel prints as 4 output pixels.	The printed image is the size of the original.
300 dpi	600 dpi	1 input pixel prints as 1 output pixels.	The printed image is 1/4 the original size.
600 dpi	300 dpi	1 input pixel prints as 1 output pixels.	The printed image is 4x the original size.
600 dpi	600 dpi	1 input pixel prints as 1 output pixels.	The printed image is the size of the original.

▼ **To choose resolution**

1 Press **Setup menu/Print mode menu/Dots per inch**.
2 Select **300** or **600** resolution.

Set print passes

The number of passes indicates how many times the cartridges must fire to lay down the ink for a complete scan line. You may select multiple passes, so that on a single pass, the jets fire only a fraction of the dots. If you're printing an image with heavy fill or shading, setting the print mode to an option that lays down less ink can help prevent running and bleeding.

Note: *When using the 2 x 4 cartridge set, a single pass fires ink from two cartridges for each colour.*

▼ **To change the number of passes**

1 Choose **Setup Menu/Print Mode Menu/Print Passes.**
2 Choose **Single, Two, Three, Four, Six, Eight** or **Ten** for 1x4 cartridge sets or **Single, Two, Three, Four** or **Five** for 2x4 or **Single, Two, Three, Four, Five, Six, Eight** or **Ten** for 1x8 cartridge set.
3 Press **OK.**

Note: *More print-passes equals higher print quality whereas less print passes means higher speed.*

Attention: *Single pass is not recommended forgraphics art printing.*

Set carriage speed

Carriage speed lets you determine the number of dots per second that are laid down as the carriage moves over the media.

▼ **To set the carriage speed**

1 Press **Setup Menu/Print Mode Menu/Carriage Speed.**
2 Choose **1, 2, 3, 4, 5, 6, 7, 8, 9** or **10**. (10 is the fastest.)
3 Press **OK.**

Select the print direction

The print direction determines whether the inkjets fire on both passes of the carriage over the print area (bidirectional), or simply on the return pass (unidirectional).

- **Unidirectional** printing can reduce running and ink bleeding if you have an image with solid fills and blends.
- **Bidirectional** printing can decrease your printing time if printer speed is more important.

▼ **To change the print direction**

1 Press **Setup/Print Mode/Print Direction**.
2 Choose **Unidirectional** or **Bidirectional**.
3 Press **OK**.

When printing in bidirectional mode, the velocity of the carriage can cause certain dots to miss the target area on the media. To alleviate this problem, use the **colour deadband compensation** feature to fine-tune dot placement. The colour deadband test pattern lets you check the velocity deadband values and adjust them for best printing results (see 'To print the colour deadband test pattern' on page 40).

Chapter 8
Firmware downloads

This chapter describes the procedure to follow to upgrade the firmware version included in your printer.

Overall

The Océ 5090 inkjet printer contains firmware that can be upgraded to a newer version. You may need to upgrade your firmware version for different reasons:

- support of new ink
- engine improvements
- new features

For this reason, Océ gives all owners of an Océ 5090 system access to new firmware versions via the WWW.

Check the firmware version

▼ **To check the version of your firmware:**

1 On the printer control panel, select 'Utility menu' then 'Service menu'.

2 In the 'Service menu', press 'About'.

```
Vers :    0. 9. 1 Date:  9-29-2000   Time:  11:34
BROM :    1. 6. 0 Date:   9-6-2000   Time:  13:25

RAM:   64 Mbytes   Sice:   42   MB:   87. 27-0
          87FF-1c43-0005-DEC8-5          ECP
                                            EXIT
```
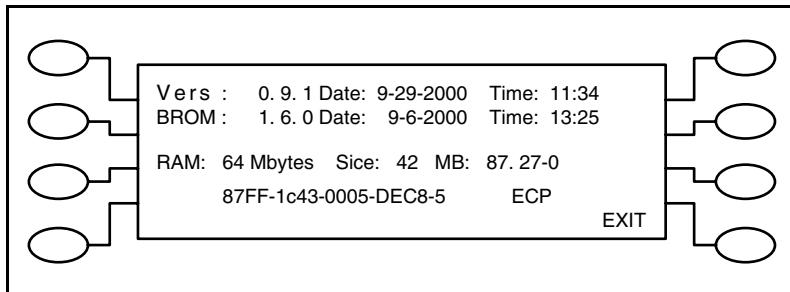
This 'About' screen provides information about the firmware version. All you need to do is to compare your version with the latest versions available on the 'Océ Downloads' page of Océ Web site.

Upgrade the firmware

▼ **To get the upgrade files**

1 From the 'Océ Downloads' page of Océ web site (www.oce.com), select your printer and software. The 'Firmware upgrade' page is displayed.
2 Click the latest firmware download icon available for your printer. The requested exe-file is downloaded.
3 Run the downloaded file.
4 Indicate the location of a temporary directory where to install the upgrade files. Three files are placed in the temp directory:
   ■ install.pdf
   ■ whatsnew.pdf
   ■ yyyyxxx.rom
   The yyyyxxx.rom file is specific to the printer:

Printer Name	Firmware Name
Océ 5090	5090xxx.rom
Océ 5350-600	600exxx.rom
Océ 5050	5050xxx.rom
Océ 5070	5070xxx.rom

   Note: *where xxx indicates the release number.*

▼ **To install the firmware**

1 If the printer is connected through an ethernet print server, first remove the print server.
2 Connect the parallel cable between the parallel port of the printer and the parallel port of the Océ Server PC.
3 Turn the printer ON and wait until the printer is initialized.
4 From the Windows 'Start' menu, select 'Programs' and 'Command prompt'.
5 In the MS-DOS Prompt, type the location of the firmware file (usually C:\TEMP).

6 Type 'PRINT /D:LPT1 <filename>.rom:
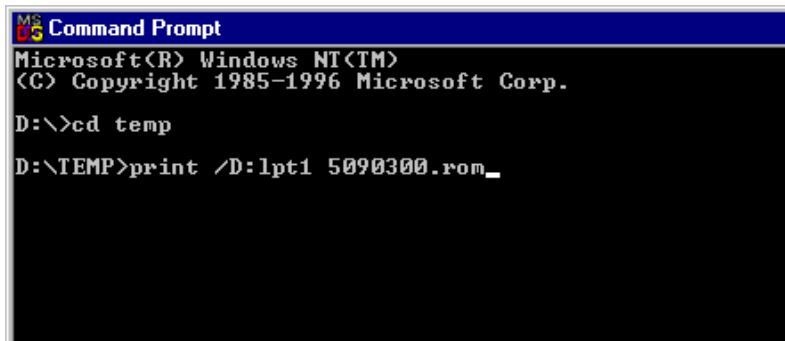
[33] Install firmware

7 Press 'Enter'.
After 20 to 40 seconds, a SINGLE beep from the printer indicates the installation is successful.
Note: *If you hear several beeps or no beep at all, the installation did not succeed. If so, check the parallel port connections and repeat steps 4 to 8.*
After the single beep, the printer automatically re-initializes.
Note: *The printer can be manually re-initialized by selecting 'Setup menu', 'User Setup menu' and 'Init Settings'.*

8 Once the printer is re-initialized, check the revised version of the firmware (see 'Check the firmware version' on page 101).

Chapter 9
Maintenance and cleaning

The chapter describes the periodic maintenance tasks to carry out in order to maintain consistent quality printing.

Periodic cleaning

For best results, Océ recommends that you clean periodically the cartridges and service station. The frequency should be daily for heavy use, and weekly for moderate use. In addition, you should wipe any areas of the printer exposed to ink and the print shaft with a lint-free cloth moistened with water. The table gives recommendations for periodic cleaning to keep your printer in optimal working condition.

Attention: *Do not oil the print shaft. Clean with a clean cloth and rubbing alcohol.*

Interval	Component	Cleaning Agent
Immediately	External surfaces	Distilled water
Bi-weekly	Service station seals and wipers / Cartridge jet area	Distilled water
	Trailing cable	Océ Cleaner A or Distilled water
Weekly	Slide shaft Encoder strip top and bottom	Isopropyl alcohol Isopropyl alcohol
	Cartridge dimples, flex driver cables,	Distilled water
	Carriage bushings	Distilled water
	Cutter groove	Toothpick or small wooden tool
Monthly or prior to tiling/paneling	Pinch rollers and lower drive rollers	Distilled water
	Platen vacuum holes	Toothpick or small wooden tool
As required	Paper sensor	Isopropyl alcohol

Materials to use for cleaning

- Isopropyl alcohol (industrial grade)
- Lint-free soft cloth/paper wipe
- Dry lint-free cloth
- Cotton swabs
- Ultrasonic cleaner (if available)
- Distilled/Reverse osmosis water (purified water)
- Canned/compressed air.
- Océ Cleaner A

Clean the ink cartridge jet plate

The ink cartridges may require occasional cleaning when used in low humidity. If repeated priming does not unclog the head, follow the cleaning procedure below. In addition, cartridges will wear out after prolonged use. If cleaning the cartridge does not restore print quality, replace it.

▼ **To clean the inkjet plate**

1 Press 'Utility Menu', 'Access Menu' then 'Access Left' or 'Access Right' to move the carriage away from the service station.

2 Lift the appropriate valve cover on the carriage cover assembly and disconnect the septum fitting.

3 Remove the ink cartridge from the printer by gently pulling the top of the cartridge toward you, then lifting it up out of the carriage.

4 Press lightly against the jets with a water-moistened, lint-free, non-paper cloth (do not use alcohol). Gently blot any excess ink.

Attention: '*Blot - do not wipe'. Wiping may damage the jets. (Ink will appear on the cloth; this is normal in this situation.)*

5 Reinstall the cartridge in the carriage and reconnect the ink supply line.

6 Close the valve cover.

Attention: *Never use alcohol to clean the jet area of the cartridge.*

7 Press the 'Access Home' button to return the carriage to the service station. Press Exit once.

8 Press the 'Prime' button to check the cartridges. Repeat two more times, if necessary. If the cartridges fire correctly, perform the appropriate calibration procedures.

9 If the cartridge continues to misfire, remove the cartridge. Rinse the ink from the bottom of the cartridge using warm distilled water. Note that removing the cartridge too many times may create a large air bubble in the line, which could lead to pen problems. Refill the lines with ink if necessary.

Note: *You can manually compensate for clogged jets.*

10 Dry all surfaces of the cartridge, except for the jet plate area. Reinstall the cartridge and reprime. Check the Prime test pattern and set the print mode as indicated on the test pattern print. You may also want to run a colour test.

Clean the service station ▶**Click for Video**

Ink and dust can accumulate in the service station causing poor print quality. Depending on how frequently you print, you may want to clean the service station daily using the following procedure. We recommend that you replace the service station about every six months or 2000 plot hours.

▼ **To clean and inspect the service station**

1 Select 'Utility Menu', 'Access Menu' then 'Access Left' or 'Access Right' to move the carriage away from the service station.

2 Raise the printer cover.

3 Locate the service station release tab at the right end of the service station base. Move it gently to the left and lift to remove the entire service station assembly.

4 Rinse the service station and wipers with warm water. Use cotton swabs to clean small spaces.

5 Inspect the seals and wipers. Any damage to these parts can cause the cartridge jetplate to clog, resulting in misfires.
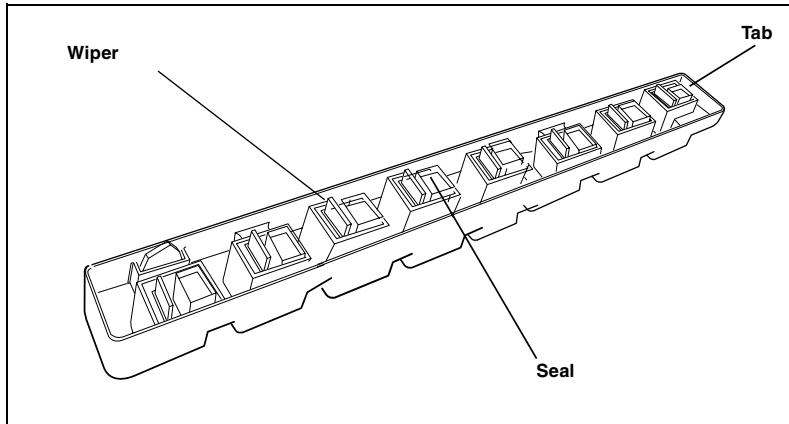
[34] Cleaning the service station

If any of the seals look worn or damaged replacement of the service station is required.

Compare the wipers to the figure below and replace the wipers if necessary. The wiper on the left is in good condition, the other two require that they be replaced.
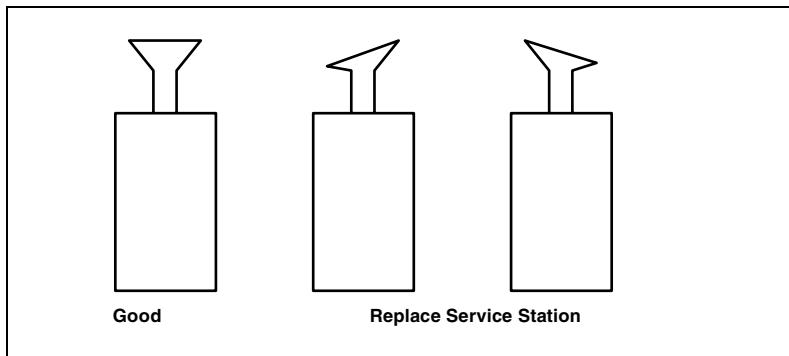
[35] Comparing the wipers

6 Dry the service station and replace it, putting the left side in first. Make sure the release tab relatches.

7 Press 'Access Home' to return the carriage to the service station.

Clean the Pinch Rollers and Lower Drive Rollers

The pinch rollers and lower drive rollers require cleaning to ensure that the media transport system applies the correct amount of traction to control the movement of the media.

If the pinch rollers and lower drive rollers are not kept clean, line length accuracy may be encountered and the image quality will deteriorate.

▼ **To clean the pinch rollers and the lower drive rollers**

1 Lift the cover of the printer.
2 Remove any media if loaded.
3 Take a lint-free cloth moistened with Isopropyl Alcohol and press it against the pinch roller and the lower drive roller simultaneously.
4 To clean the pinch and drive rollers, press 'Feed Media' then 'Forward' to rotate the rollers. Do not allow the cloth to get caught on the rollers and be fed into the platen assembly. Continue rotating the rollers until they are clean.
5 Perform this procedure on all pinch/drive roller pairs on your printer.
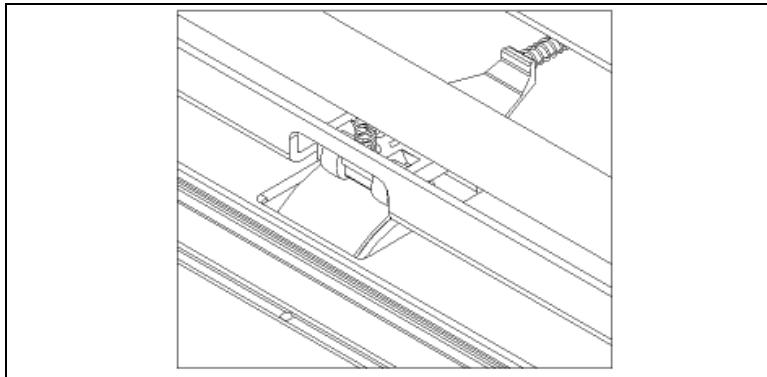
[36] Clean the Pinch rollers

6 The pinch/drive roller pair that is to the extreme right side of the printer (as you are looking at it from the front) has a drive gear that is visible. As you rotate the rollers, make sure that there is no debris between the teeth of the gear. If any debris is present, remove by using a stiff brush if needed. Do not allow the debris to remain as this can affect your line length accuracy and cause banding in your prints.
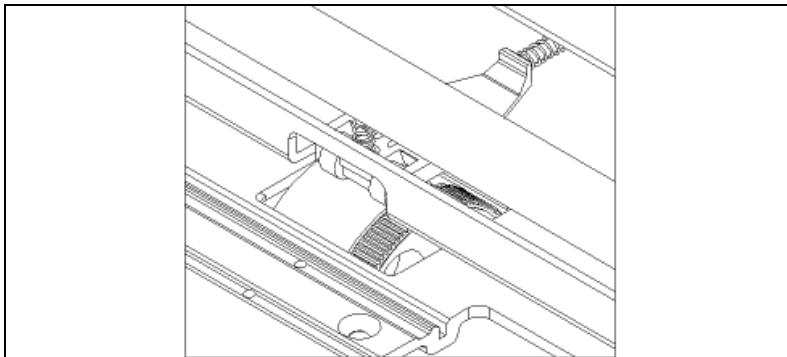
[37] Right pinch roller

7 Close the cover.

8 Install any media if it was removed

Clean the slide shaft ▶**Click for Video**

The slide shaft requires cleaning to achieve the highest quality output. If the slide shaft is not kept clean image quality will deteriorate and will eventually cause a 'carriage axis failure' to occur.

▼ **To clean the slide shaft**

1 Lift the cover of the printer.

2 With a lint-free cloth moistened with isopropyl alcohol gently clean the entire slide shaft, both the top and bottom.

3 To clean the slide shaft area above the service station, press 'Utility Menu', 'Access Menu' then 'Access Left' or 'Access Right' to move the carriage out of the way.

4 After cleaning the area above the service station, press Access Home to move the carriage assembly back into the service station.

5 Close the cover.

Clean the encoder strip ▶**Click for Video**

The encoder strip is a very essential part of the printer. If it becomes dirty it can cause a variety of image quality problems. To ensure great image quality keep the encoder strip clean.

▼ **To clean the encoder strip**

1 Lift the cover.
2 Locate the encoder strip. The encoder strip is a thin piece of plastic that is attached to a metal bar. This assembly is located just below the flex trailing cable support and runs the entire width of the printable area. Use the image to the right to help locate it.
3 With a cotton swab moistened in isopropyl alcohol gently clean the top and bottom of the encoder strip. Be sure to clean the entire length of the encoder strip.
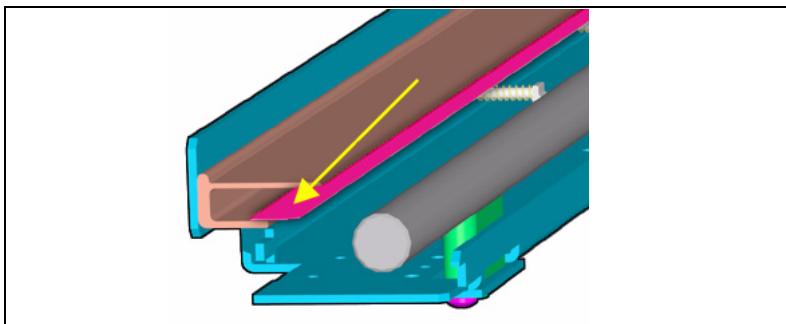
[38] Encoder strip

Attention: *Use extreme care not to bend or damage the encoder strip in any way. Any damage to the encoder strip can cause the printer not to operate properly.*

Note: *Canned air can also be used to clean the encoder strip. This method will only be effective to remove lint and other dry materials. If ink or any liquid gets on the encoder strip the cotton swab method will have to be used.*

4 Lower the cover.

Clean trailing cables Click for Video

The trailing cables require cleaning to keep the printer in top condition.

During high production periods, ink may accumulate on the trailing cables and its support bracket. If this accumulation of ink is not cleaned off regularly, the trailing cables will become 'sticky' and can interfere with the proper operation of the trailing cables. This can result in the image quality deterioration and eventually will cause a 'carriage axis failure' to occur.

▼   **To clean trailing cables**

1   Remove power from the printer.
2   Lift the cover of the printer.
3   Dampen a lint-free towel with water (or soapy water for very dirty cables) and wipe the entire surface of the white trailing cables.
4   Close the cover.
5   Turn the printer on.

Caution: *Do not pull too hard on the cables or damage may occur.*

Clean flex cables ▶**Click for Video**

The electrical contact areas on both the flex cables (part of the carriage assembly) and the cartridges require cleaning. This is necessary to ensure proper operation of the cartridges to extend the life of the cartridge and to achieve the highest quality output.

Cleaning these areas are very important due to the ease of which this area can become dirty. The oils and dirt that accumulate on your fingers and hands can contaminate these areas. Also excessive ink from the bottom of the cartridge can find its way to the electrical contact areas.

If the electrical contact areas on both the flex cables and the cartridges are not kept clean, image quality can deteriorate. This is due to the firing signals from the carriage assembly being blocked from getting to the cartridges resulting in jets not firing when they should. This condition can be seen as a misfiring of the cartridge.

Always clean each of these areas weekly or whenever you change cartridges so that excessive buildup does not develop.

▼ **To clean flex driver cables**

1 Remove power from the printer.
2 Lift the cover of the printer.
3 Dampen a lint-free towel with isopropyl alcohol and wipe the entire surface area of each cable.
4 Close the cover of the printer and turn the printer on.

Caution: *Ensure no fibres remain on the cables.*

Clean carriage bushings
▶**Click for Video**

▼ **To clean carriage bushings**

1 Remove power from the printer or select 'Access menu/Access Left' to move the carriage out of the service station.
2 Dampen a lint-free towel or cotton swab with water and wipe the entire area of both carriage bushings.
3 Wipe away excess water.

Clean platen vacuum holes

▶**Click for Video**

The platen (the black metal part directly under the media as it is printing) requires cleaning to ensure that the media has a smooth surface to move across and that the vacuum holes do not get clogged.

Keeping the platen clean ensures that the platen surface does not have ink or media residue build up. If the platen is allowed to continue to have ink building up on it, the residue will become sticky and tacky and will eventually interfere with the proper movement of the media, possibly causing line length errors in your images.

If the vacuum holes on the platen are not kept clean, the media will lift off of the platen and could cause the cartridge heads to actually hit the media leaving "head strike" markings on your image. Image quality can also deteriorate if the actual distance between the cartridge head and the media is less then the calculated value used in the ink printing algorithm.

▼ **To clean platen vacuum holes**

1 Lift the cover of the printer.
2 With a lint-free cloth moistened with Isopropyl Alcohol gently clean the entire platen surface.
3 To clean the vacuum holes on the platen, use a toothpick and insert it into the hole.
4 Move the instrument in a circular motion to clear the edges of the hole and remove.
5 Wipe the instrument with a cloth to clean any debris off before inserting it into the next hole.
6 Repeat step 5 for all the vacuum holes on the platen.
7 Close the cover.

Caution: *Do not push lint through platen holes or problems with the stepper motor gearing might occur, leading to microbanding in image output.*

Maintain the Océ Prime tool

The Océ Prime tool is an accessory used to establish ink flow when you install new cartridges and reservoirs. It operates using four (4) AA batteries.
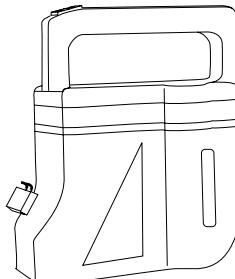
[39] Océ CS 5090 Prime Tool

▼ **To replace the battery**

1 Turn over the Océ Prime tool and remove the battery access cover located on the bottom.
2 Note the orientation of the battery pack.
3 Remove old batteries and replace with new batteries.
4 Reinstall the battery access cover.

▼ **To clean the Océ Prime tool**

1 Clean the Océ Prime tool (part that touches the cartridge) with distilled water and a lint-free cloth to remove ink.
2 Thoroughly wash the ink bottle and allow to air dry.

Transport the printer

Before removing your printer from service, do the following preparations:

■ Remove the ink cartridges and store them in a sealed plastic bag, away from direct light and heat.
■ Remove the ink reservoirs.
■ Wash out the service station.

Chapter 10
Error handling and troubleshooting

*This section is a guide for you to identify and solve
problems that can arise in the course of printing.*

Error handling

In case of error, the control panel displays the message 'Internal ERROR: Shutdown' with a specific message to explain the nature of the error.
If you cannot clear it, note the message and the sequence of events leading to the error, in order for Océ technical support personnel to assist you in solving the problem.

If the control panel displays a "Servo shutdown message", turn the printer off and on again to clear the error.

If the control panel displays an "Unrecognized Cartridge(s)" message, the error originates from one of three problems:

■ One or more non-CS 5090 cartridges installed
■ One or more incorrectly installed Océ cartridges
■ One or more cartridges not installed

Unrecognized cartridge

If you use any other cartridges than Océ cartridges the message "unrecognised cartridge" appears. Also, incorrectly installed cartridges lead to the same error message due to poor electrical connections between the cartridge and the carriage unit.

▼   **To clear the error**
1   Press **Access menu/Access Left** to move the carriage to the position for replacement of the ink cartridges.
2   Check for the correct installation of CS 5090 cartridges in each position.
3   Replace any non-standard cartridge with an Océ cartridge.
4   Press **OK**.

Note: *The printer can sometimes display a cartridge error even with an Océ cartridge. This may be due to a build-up of static electricity. Turn off the printer and unplug it from the outlet. Wait 10 seconds before you plug it back in and turn on the printer (see 'Cartridge recognition' on page 38).*

Check the quality of ink cartridges

Before printing and at regular intervals during printing, check the state and quality of the ink cartridges to make sure that they are in optimal working order.

Run the prime test

Running a prime test ensures that your cartridges print at optimal quality. This prime test gives detailed information about the state of the cartridges and suggest the appropriate print mode to use when you must compensate for electronically damaged jets without losing quality during multi-pass printing. However, when the jets become clogged (due to prolonged exposure to air or disuse), you must clean them manually or compensate for them.

Océ recommends that you print this test daily to ensure the best possible print quality and solve related problems before printing.

▼ **To print the prime pattern**

1 With media loaded, press **Utility** menu.

2 Select **Prime**. A test pattern prints. The test pattern consists of four coloured bands (for black, cyan, magenta and yellow), a series of lines and a CMYK header, indicating the compensating print modes for damaged jets.

Missing line Misdirected line Light-printing line

A solid bar indicates an electrically defective jet. Jet Compensation will automatically compensate for that jet.

A missing line or "gap", misdirected line, or a light-printing line indicates a clogged jet.

The header lets you know the number of passes for which compensation is available.

```
2x4    4: 3 4 5   3: 3 4 5   2: - - 5   1: - - 5   Y: 3 4 5   M: 3 4 5   C: 3 4
              1x4 Right   Y: 3 4 6 8 10   M: 3 4 6 8 10   C: 3 4 6 8 1
              1X4 Left    4: 3 4 6 8 10   3: 3 4 6 8 10   2: - - 6 - 1
                          COMPENSATION AVAILABLE IN THE ABOVE
```

4
Y
3
M
2
C
1
K

[40] The prime test

▼   **To interpret the prime test**

- The bands should be smooth, without dark streaks or white lines. The lines should not look fuzzy or contain gaps.
- Within the printed test pattern, each jet is represented by a short horizontal line. Together, these short horizontal lines form a "stair step" pattern.
- Electrically defective jets appear as solid bars which can be compensated.
- Clogged jets appear as gaps or misdirected lines in the "stair step" pattern, which you clear manually.
- The print modes for which compensation is available are shown above the test pattern.
- In the above example, the prime test shows that there are three electrically defective jets and one clogged jet. The header indicates that you can compensate for the electrically defective jets in the 4-pass mode. But you must clear the clogged jet manually. See 'Clear clogged jets' on page 122 for further information.

Note: *If all jets appear to be defective, reinstall the cartridges.*

Compensate for electrically defective jets

▼   **To compensate for electrically defective jets**

1 Examine the printed test pattern.
Each solid bar represents an electrically defective jet. The header indicates the print mode that can best compensate for the defective jets in each cartridge. The same print mode must be available for all four print cartridges in order to provide full compensation.

2 Press **Setup Menu/Print Mode Menu/Print Passes**.

3 Set the number of print passes by pressing the **Prev. Option** or **Next Option** to the appropriate setting.
Note: *When printing to the Océ CS 5090 using the Océ Graphics Server L, you should set the correct print mode in the Setup window of the Printer Setup dialog box (consult your Océ Graphics Server L Reference Manual).*

4 Press **OK**.

5 Press **Exit** to leave the menu.

Note: *If there is a complete groups of nozzles (e.g. 13 or 16 nozzles), the cause is probably an electrical contact problem between the flex driver cable and the cartridge, you should clean the electrical contacts on the flex driver cable (located behind each cartridge) and the cartridge electrical contacts using a lint-free cloth moistened with isopropyl alcohol. Check that the unit is powered off while cleaning the flex driver cables.*

Clear clogged jets

A clogged jet appears in the prime pattern as a gap in the "stair-step pattern" for each cartridge. The printer does not automatically detect clogged jets, so you must clear them manually by cleaning and priming the cartridges.

▼ **To clear clogged jets**

1 Examine the printed test pattern.

2 Unsnap the ink cartridge which shows clogged jets from the carriage.

3 Prime the cartridge using the prime tool. To do so, attach the prime tool to the cartridge jet plate and prime cartridge with pulses by pressing the activation button repeatedly.

4 Clean the cartridge jet plate by blotting the jet plate with a distilled water/isopropyl saturated lint-free towel.
   Note: *For severely clogged cartridges completely clean the jet plate thoroughly by immersing cartridge jet plate into ultrasonic cleaner for 30-40 seconds. As a final attempt, try immersing the jet plate into boiling water for 10-15 seconds.*

5 After cleaning, reinstall the cartridge.

6 Select **Utility Menu/Service Menu/Diagnostics /Colour Test** to clear water/chemicals from the jets.

7 Press **Prev. Option** to change the option '10%' to '100%'.

8 Press **OK** to start printing.

9 Rerun the prime pattern to verify whether the jet is cleared of ink clog. Try to eliminate all gaps in the "stair step" pattern prior to starting your print job.

If the printed results remain unsatisfactory, run the test several more times.

Compensate manually for clogged jets

In addition to the prime pattern, you can also print a jet status list which identifies for each colour the number of individual jets that are clogged. This enables you to enter manually the jet numbers (by cartridge colour) to initiate compensation for the clogged jets. The jet compensation data is stored on the cartridge chip.

▼ **To print the manual jet compensation list**

1 From the main menu, select **Utility Menu/Calibration Menu**.

2 Select **Open Jet Menu/Print Jet list**. In the example below, the jet status list shows the current jet compensation by number for each cartridge.

Manual jet compensation list

|	
4:	None
3:	100, 204
2:	37, 40, 44, 155
1:	178
Y:	None
M:	1, 3, 10
C:	None
K:	10, 21, 30, 128

3 To add a jet to the compensation list, press 'Left' or 'Right', according to the colour of cartridge where the jet is located:
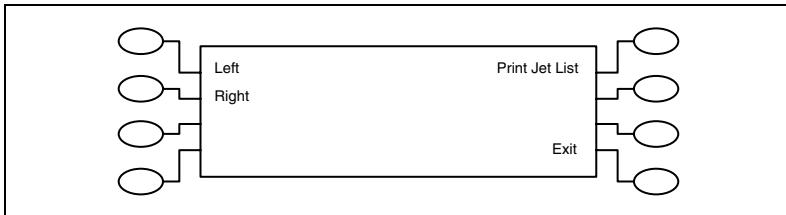
[41] Jet compensation list
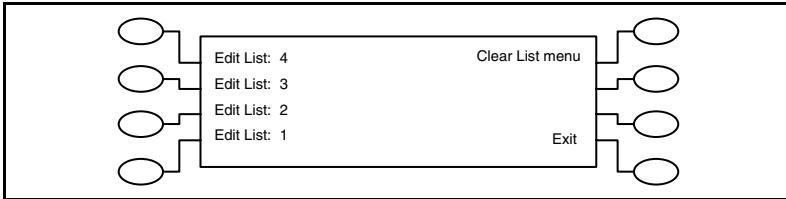
[42] Jet Compensation List (Left)
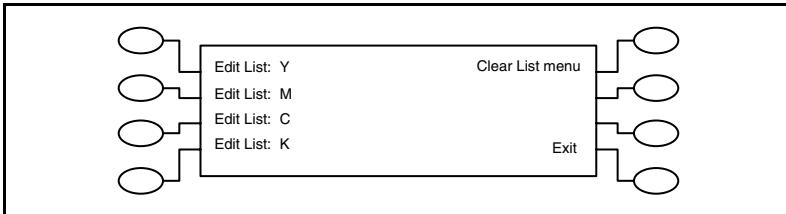
[43] Jet Compensation List (Right)

4 Select a list.

5 To compensate for a specific jet, press **Next Option** or **Prev. Option** until the panel displays the number of the jet.

6 Press **Toggle Jet** to switch the jet to **OFF**.

7 Repeat for any other jet for which you must compensate.

8 Press **OK** to validate the settings.

Note: *Once you have manually compensated for jets in any cartridge, remember to clear the compensation list when you install a new cartridge by pressing "Clear List Menu".*

Troubleshooting

Troubleshooting helps you locate the source of errors and fix common problems that can arise during printing. However, before you investigate, check:

- Is the printer connected to a working power source?

Troubleshooting areas

- Printer behaviour
- Print quality
- Data transfer
- Application software

Isolating problems

You can quickly isolate problems in the printer, computer/printer interface, or application software using the following procedure:

▼ **To isolate problems**

1 Turn the printer **OFF**, then **ON**.
2 Load media, then print a prime test to check that all jets fire. (see 'Check the quality of ink cartridges' on page 119)
3 Perform a colour calibration. (see 'Run a colour test' on page 35)
   If your printer fails during any of the above steps, call the Océ helpdesk. Otherwise, continue with the following steps:
4 Send a test print directly to the printer through the parallel port. For example, on a PC, type:
   copy /b <filename>.rtl lpt1.
5 If your computer runs on a network, log on and copy the test file to the printer over the network.
6 If steps 4 or 5 fails, try again from another computer.
   If any of these steps fail, your printer may not be correctly connected to your computer and/or network. Contact your systems administrator. Otherwise, continue with the following steps:
7 Print directly to the 5090 from several software applications.

8 If your computer is on a network, log on and print from several software applications.

9 If steps 7 or 8 fails, try again from another computer, or remove it from the network to test on a stand-alone basis.

- If one application fails, but others print successfully, the problem can originate from a specific software.
- If all applications fail to print, call Océ Service.

Printer behaviour

Printer does not turn on

- Check that the power cord is securely attached to the printer and plugged into a working electrical outlet.
- Check that the power switch is on.

Display does not light up

- Check that the power cord is plugged in and the power switch is on.
- Push any control panel button. The display should light up.

File will not print

- Check the electrical connections.

Takeup roll does not turn

- Check that the paper feed option is set to "Takeup".

Takeup roll does not stop turning

- Check that nothing blocks the take-up sensor (between the take-up sensor and media).

Automatic cutter does not work or tears the paper

- Make sure the Auto-Cut option is set to ON.
- Make sure Media Supply Type is set to Roll.
- Make sure the cutter is properly installed. (see 'Install cutter' on page 24)

▼ **To check cutter**

1 Turn off the power. ▶**Click for Video**

2 Clean the inside of the black belt using alcohol and a lint-free cloth.

3 Push the carriage back and forth to access all areas of the belt. Manually push the carriage completely to the left to force the cutter to drop.

4 Turn on the power.

5 Check that the service station lowers. If not, push it left and then down, in order to disengage the cutter.

6 If the cutter is worn, replace it. The cutter wear depends on the frequency of use and the type of media cut.

Carriage jams

■ Check for paper jams or blockage.

Carriage axis failure

■ This may be caused by using matte paper which may curl and cause carriage axis failure. Be sure to use inkjet quality media.

■ An obstruction in the path of the carriage assembly hindering the carriage movement, which you may or may not see.

■ Other common causes include dirty encoder strip, media interference, worn carriage bushings, cutter malfunction, and loose trailing cable connection.

▼   **To check carriage axis**

1   If the carriage is in the same spot, check the encoder strip for visible damage (clear plastic strip under the trailing cable tray and above the belt). See the figure below:
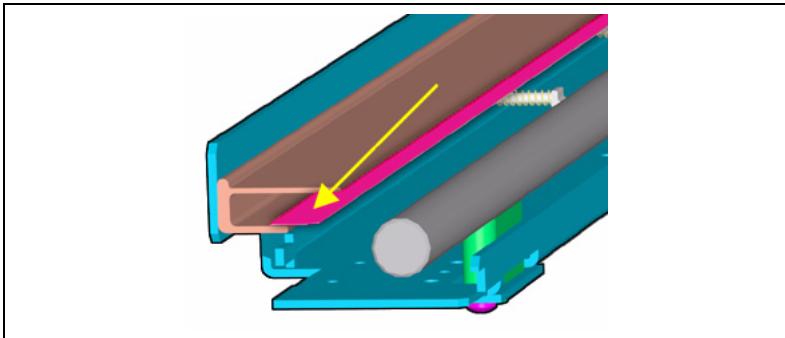

[44] Plastic strip under the trailing cable

2   Verify that carriage movement is free and smooth by turning the power off and moving the carriage from one end of the shaft to the other, with nothing binding or blocking the carriage movement.

Attention: *Make sure power is off before performing this step!*

3   Clean the top and bottom of the encoder strip using a cotton swab and distilled water. Let it dry completely for approximately 30 minutes before trying to operate the printer.

4   Remove the cutter from the left side of the carriage and check it for visible damage. Make sure cutter version A is installed (see the figure below).
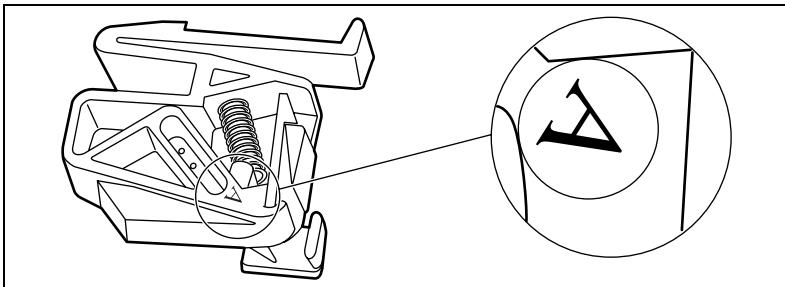
[45] Cutter version A

5   Check the shaft for visible damage (carriage moves back and forth on it during operation).

6   Clean the shaft with a lint free cloth and isopropyl alcohol. Let it dry completely for approximately 30 minutes before trying to operate the printer.

7   Check the belt for visible damage such as fraying and pieces coming apart.

8   Check the trailing cable (cable that moves during printer operation) for visible damage.

9   Check whether the idler assembly (located at the left end of the belt) moves freely. Check for cracks or damage.

10 After you've checked the above items, reboot the printer.

Note: *If the error re-occurs, observe whether the carriage is in the same or different location.*

Cannot draw ink during initial siphon

■ Check that the quick release fitting connection to the ink reservoir is secure.

■ Check whether contaminants have blocked the ink delivery lines. If necessary, flush the lines with distilled water, then reprime.

Initial siphon cannot be established

■ Check that ink reservoirs are full.

■ Check the ink delivery system for leaks in the lines, at the tubing connection, and at the quick connect coupling to the reservoir. If leaks cannot be stopped, call Technical Support.

Ink cartridges do not fire properly

■ Clean cartridges and the service station periodically to maintain good print quality (see 'Clean the ink cartridge jet plate' on page 107).

■ Cartridges wear out after extended use. Replace the cartridge.

■ Store cartridges in a sealed container at room temperature when not in use for extended periods of time.

■ Make sure you have removed the protective tape from the cartridges.

■ Remove the cartridge and reinstall it, or clean the electrical contact on the cartridge and carriage. Check that it is clean and dry, and properly installed (see 'Install ink cartridges' on page 26).

■ Check that ink goes through the delivery lines. If necessary, use the Océ Prime tool to force ink out of the nozzle plate and remove trapped air bubbles.

■ Check that the ink reservoirs are filled.

Cartridges leak

■ Check that reservoirs are not overfilled.

Various nozzles are clogged or stop firing

- Repeat prime several times.
- Remove, clean, and re-install cartridge; repeat prime. Do not use alcohol on the jet area.
- Clean service station; clean cartridge again; repeat prime.
- Clean cartridge electrical contacts using a cotton swab moistened with water. Dry contact. Repeat prime. Do not use acetone or any other harsh cleaner as this may cause damage to the flex cable.
- Nozzle may have failed. Replace cartridge. Check for nozzle clogs by using the suction bulb on the cartridge nozzle plate.
- Check to see whether spray from printing has contaminated the flex contact. Remove the cartridge and wipe the carrier flex and cartridge flex with a cotton swab dipped in alcohol.
- Run prime. If sections of the print are missing, replace the cartridge.

Ink spills on the flex cable

- Clean the flex cable gently with a cotton swab moistened with water. Do not use acetone or any other harsh cleaner as this may cause damage to the flex cable.

Printer settings are lost when printer is turned off or rebooted

- Be sure to save your printer settings to a User number (see 'To save user-defined settings' on page 50). When you are ready to print, select the User number with the settings that you saved.

Print quality

You can solve most print quality problems by priming, cleaning, replacing, or calibrating the cartridges. Refer to the following chapters for details:

Priming, calibrating - (see 'Getting started' on page 15)

Cleaning, replacing - (see 'Maintenance and cleaning' on page 105)

No print appears

- Check that you've removed the tape from the cartridge printhead.
- Check that the software (OGSL) is working properly.
- Check for network problems.

White lines or large gaps on print or portions of characters missing

- Prime, clean, calibrate, or replace cartridges.
- Check if the ink reservoir is empty. Refill if necessary.
- Make sure the media feeds freely.

Overall print quality is poor

- Prime, clean, calibrate, or replace cartridges.
- Make sure the printer is positioned on level ground.

Cartridge sputters small amounts of ink on paper

- Nozzle plate may be flooded. Try using a lower firing rate or replacing the cartridge.

Streak marks

■ Clean the service station at least once a week, depending on the printing frequency (see 'Maintenance and cleaning' on page 105).
■ Prime, clean, calibrate, or replace cartridges.

Line drawings bleed

■ Be sure you are printing on the coated side of the media. Load cut sheet media so that the notch is on the side closest to the carriage. Load roll feed media so the coated side is on the outside.
■ If your application software permits, use gamma correction to lighten colours.
■ Too much air may have been drawn into the cartridge during extended operation. Add 5 ml of ink and reinstall the cartridge.

Colours print as monochrome

■ Check that you have set the Colour/Mono mode to Colour. To change a specific drawing from monochrome to colour or vice versa, you must switch the Colour/Mono setting and re-send the file.

Ink smears after removing the print

■ Check that the ink is dry before removing the print. If you are printing area fills, set the Dry Time option. Turn the dryer on.

Smudged or dark characters

■ Check that you are using the correct type of paper for the application.
■ Check that the paper is straight and unwrinkled when loading it into the printer.
■ Prime, clean, calibrate, or replace cartridges.
■ Try a different print mode.

Improperly formed or misaligned characters

■ Calibrate cartridges.

Colour problems or shadowing

■ Calibrate cartridges.

Colours are not correct or sections of print missing

■ Prime, clean, calibrate, or replace cartridges.

Image is the wrong size

■ Check that the dpi setting (300 or 600) matches the size of your image file.

Print only contains a partial image

■ Check the settings of the margins option. When you set margins to Normal (default), the print area is smaller than with the margins set to Expanded.
■ The printer did not size correctly the media. Use the Manual load option to load your media.
■ The printer automatically prints in portrait orientation. If you rotated the image in the software to save to save paper, set the paper size to the next larger size (i.e. for a C size image, select D size paper). Set the Save media option to ON to stop the printer from scrolling the full paper height.

Jagged vertical lines

■ Prime, clean, calibrate, or replace cartridges.

Splotchy area fill

■ Try using photo mode. If the problem persists, prime, clean, calibrate, or replace cartridges.

Excessive banding in area fills

■ Consistent banding generally indicates a hardware problem; whereas inconsistent banding indicates a software problem.
■ Use specially coated inkjet media.
■ Change the Print Mode option to User-defined and select a higher number of print passes (see 'Set print passes' on page 96).
■ Prime, clean, calibrate, or replace cartridges.
■ Set wiper function to off.

Ghosting (parasitic suppression)

The temperature of the print cartridge affects the size of the dots it prints (the warmer the cartridge, the larger the produced dots). Several factors may affect the temperature of a cartridge such as the ambient temperature, the number of dots recently printed or the cartridge heater circuit. This change of temperature causes what is called 'ghosting' (also known as 'parasitic suppression').

Ghosting may occur when selecting unidirectional printing, if the image [**1**] contains a white area [**2**]. The cartridge cools down when not printing this empty area and a light area [**3**] may appear next to the non-printed area. This light area is ghosting.

Use the cartridge heaters to warm the cartridge for these non-printed areas and you will minimize this phenomenon.
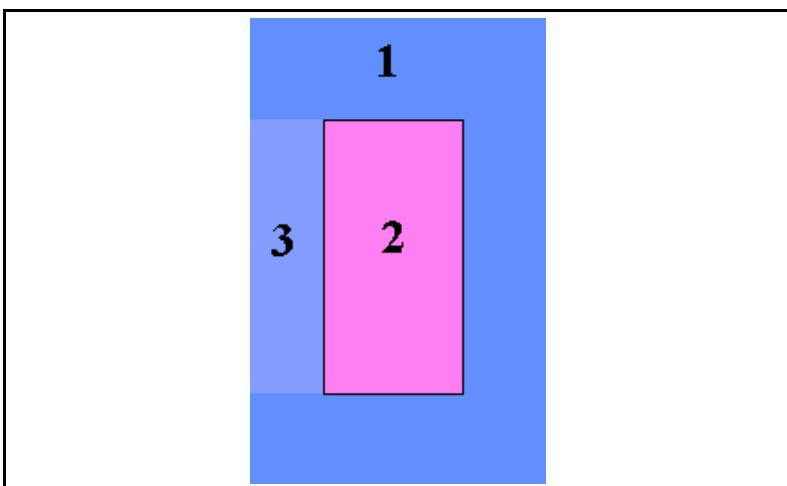
[46] Ghosting

▼   **To avoid ghosting**
1 Increase the preheat setting on all cartridges (see 'Select ink preheat' on page 89)
2 Set the carriage speed to 5 or lower (Setup/Print mode/Carriage speed/5/OK)
3 Set the printer in the bi-directional mode (Setup/Print mode/Print direction/BI/OK)

Portions of lines are missing

- Prime, clean, calibrate, or replace cartridges.
- Clean service station; clean cartridge again; repeat prime.
- Clean carriage flex cable and cartridge electrical contacts; repeat prime. Do not use alcohol, acetone, or other cleansers. Use a cotton swab moistened in distilled water. Use tap water if distilled water is not available.

Poor vertical or horizontal line quality

- Perform colour calibration (see 'Cartridge recognition' on page 38).

Microbanding

- Minimal microbanding normally occurs in the low pass modes with dense images. Depending on the color fill it may also occur in the 3-pass mode. The lighter solid pastel shades, solid two-tone grays, blues, and lavender colors are subject to microbanding in these modes. Ensure cartridges are functioning properly and that all calibrations are correct. 95% of the time microbanding is cartridge related.

Ink drop-out

- If you are experiencing ink dropout or temporary ink starvation conditions it may be corrected by modifying the preheat settings on your printer. Symptoms include horizontal bands that recover in all cases and the typical banding pattern can either be consistent or inconsistent.

Ink starvation

- Ink starvation of one or more colors can occur between 10 minutes and 4 hours of operation due to improper system setup or a defective ink delivery system (air leak in the system). Check pressure in the lines by initiating a Color Test in the 2 pass mode (see 'Run a colour test' on page 35). Repeat several times to verify pressure(see 'Causes of the most common problems' on page 174).

Data transfer

Printer does not generate a print

■ Check that your printer is connected to the port you are sending the file to.
■ If you are printing over a network, determine whether the problem comes from the network. Try connecting the printer directly to your computer and send the file again.

Parallel printing doesn't work

■ Try using another parallel cable. Check that it is securely connected.

Printer hesitation

Hesitation of the printer (short stops) could occur when:

■ Speed of the printer is too high: cartridge speed 10, print direction Bi (-directional) and 1 print pass
■ Speed E-connect or network is not optimized
■ Connection is established with a direct Centronics connection
■ Hard-software configuration is not performing

Testing your E-connect

The E-connect print server will go through the following startup sequence:

1 It will run through a set of power-up diagnostics for a few seconds. If the print server is operating properly, the TEST LED will blink momentarily and then go out. If the TEST LED blinks continuously in a regular pattern, there is a problem. If this is the case, first verify that you have a good Ethernet connection and then try powering the unit off and then on again. If the problem persists, refer to the Troubleshooting chapter in the administrator guide.

2 When the test LED goes out, the other LEDs on the print server will come on as follows:

■ On the E-connect the Link OK LED will blink if the print server detects activity on the network. The 100baseTX LED will come on if a valid 100baseTX connection is detected (this LED will not come on if 10baseT is used).

If the LEDs do not come on as described, there may be a cabling problem or a bad hub port; if this is the case, try a different cable and/or hub port.
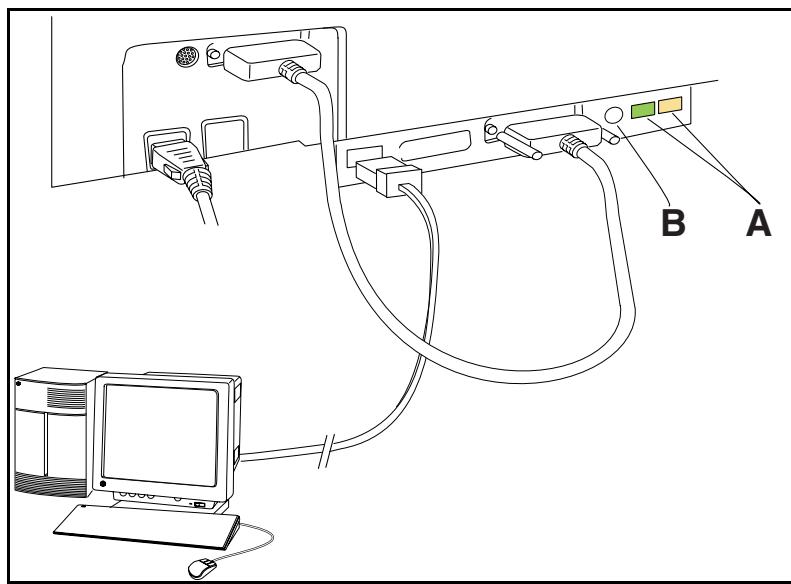

[47] E-connect

Connection to the Printer

Before attempting to print, it is very important to verify the connection between the print server and the printer. If the connection is not correct, you will not be able to print.

▼ **To verify this connection**

1 Make sure that both the print server and the printer are powered on and ready.
2 Push the Test button in briefly (more than on-eighth second but less than five seconds).

   ■ If the connection is good, a test page will be printed on the printer:
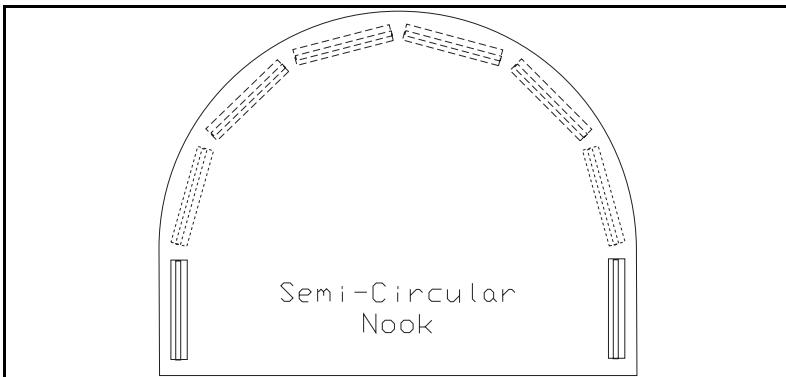
   ■ If nothing prints out, make sure that the cable is good and that it is securely fastened. If possible, try a different cable. If you have an XConnect II, XConnect II Lite, or XConnect 100, make sure that you are not exceeding the 1.75 meter (6 foot) cable length restriction. If the cable is OK but you still can't print the self-test page, you may need to adjust the parallel port settings as described in the next section.

Application software

Isolating a software problem

- Try printing the "Demo Plot" on the Utilities disk. If this prints, the printer's health is probably good.
- Try printing a simple file from your application or from another application. If this prints correctly, the problem may be with your use of software.

Difficulty in generating prints ranging from A to E size

- Many Windows applications limit the maximum print size to "C" or "D" size due to the way that they map their internal coordinate system to memory.

Calling for assistance

If you have tried the suggestions listed previously, and still require assistance, please contact your Océ service representative.

Before you call for assistance, please have the following information handy:

Printer information

■ Model
■ Firmware
■ Revision (letter)
■ Memory
■ Serial number

Computer information

■ Model
■ Operation system
■ Connection (serial or parallel)
■ Software name and version

Appendix A
Glossary

baud rate The rate of data transfer (bits per second between the computer and printer.

bit The smallest unit of digital information used by a computer or printer.

buffer The part of the printer's memory that is used for receiving and processing plot files.

calibration The procedures to adjust the ink cartridge alignment and line length accuracy.

carriage axis The plot area measured parallel to the platen.

Centronics A standard parallel interface.

Colour gamut Range of colours that can be formed by all possible combinations of the colours of a colour reproduction system.

Colour management Use of the appropriate software, hardware and methodology to control and adjust colours in an imaging system.

colour test To clear the ink cartridges by forcing them to fire rapidly. Also, to fill the ink lines with ink.

configuration The way that the computer and printer are connected.

Continuous tone Variation of density within a photographic or printed image, corresponding to the graduated range of lightness or darkness in the original copy or scan.

Diluted inks Inks that provide lower density colour than the corresponding full density version of the same colour for the same area coverage, when printing at 100% coverage. For eg: Light Magenta, Light Cyan, Medium Magenta, Medium Cyan.

Dot gain Increase in the size of screen dots caused by printing. This can make an image appear darker (fuller) and/or colour shifts can occur.

dpi Dots per inch (dpi), the number of dots the printer lays down in an inch.

handshake A method the computer and printer use to communicate.

inkjet The nozzle part of the ink cartridge.

interface cable The cable used to connect the printer to the computer. Océ printers use a serial or parallel interface cable.

Linearization A specific type of calibration in which an output device is adjusted to deliver a straight-line relationship between output and input.

media The surface on which the printer prints the image. Media comes in a variety of types, including paper, polyester, canvas, and film.

monochrome An image that is printed in only one colour (usually black).

orientation The direction of the plotted image on the page.

palette The available colours for the printer.

paper axis The long side of the plot area measured at right angles to the platen.

parallel interface An interface type in which all bytes are transferred simultaneously, making it faster than a serial interface.

parity A method for checking the transfer of information between the computer and printer.

platen The surface on which media is placed to print.

plot area The area in which the printer prints the image, determined by the width of the media.

Profile A digital signal-processing colour transform or collection of colour transforms, plus additional information concerning the colour tranforms and device.

raster image A graphic created by dots called bitmaps.

resolution The sharpness of a printed image as measured by dots per inch.

roll feed Media that is packaged on a roll and is loaded and fed through the back of the printer.

vector A graphic created by geometric lines. HP-GL and HP-GL/2 files are vector files.

Appendix B
Safety information

General safety information

Radio interference (EMC)

Note: *This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.*

Instructions for safe use

Océ designed and tested products in accordance with the strictest international safety standards. To ensure safety when working with these products, it is important that you observe the following safety rules:

Maintenance

- Do not remove any screws from fixed panels.
- Do not carry out maintenance activities except for the parts and maintenance materials mentioned in this manual.
- Do not place any liquids on the machine.
- Use maintenance materials or other materials for their original purpose only. Keep maintenance materials away from children.
- Do not mix cleaning fluids or other substances.
- To avoid the risk of introducing hazards, all modifications to Océ equipment are strictly reserved to properly qualified and trained service technicians.

Connection

■ If for some reason you have to move the machine yourself, please make sure that the mains power point has the right fuse capacity. See the Océ CS 5090 safety data sheet in this appendix for information about maximum current.

■ Do not bridge any mechanical or electrical circuit breakers.

■ Do not use an extension lead to connect the machine.

■ This equipment has not been designed for connection to an IT power system. (An IT power system is a voltage network in which the neutral wire is not connected to earth).

■ For equipment connected via a wall socket: locate the machine close to a wall socket that is easily accessible.

■ For equipment connected via a fixed connection to the electricity grid: the disconnect device in the fixed connection should be easily accessible.

Surroundings

■ Do not block the ventilation openings of the machine.

■ Ensure that the machine is placed on a level, horizontal surface of sufficient strength. See the Océ CS 5090 safety data sheet in this appendix for information about the weight of the equipment.

■ Ensure there is sufficient space around the machine. This facilitates reloading materials as well as maintenance.

■ Do not place the machine in rooms which are subject to excessive vibration.

■ Do not place the machine in rooms which are too small and insufficiently ventilated. See the Océ CS 5090 safety data sheet in this appendix for information about space and ventilation requirements.

General

■ Always use materials recommended by Océ and developed for this Océ machine. Materials not approved by Océ may result in faults in your machine.

■ Do not use the machine when it is emitting unusual sounds. Remove the plug from the power socket or switch off the fixed connection to the electricity grid and contact Customer Service.

Safety data sheets

The disclaimer below is valid for all safety data sheets in this manual.
For questions about Océ products regarding health, safety and environment,
please contact your Océ organisation; you can find the address in the last
appendix of this manual.

Disclaimer The safety data sheets in this manual have been compiled to the
best of our knowledge as a compact guide to safe handling of this product. We
reserve the right to revise safety data sheets as new information becomes
available. It is the user's responsibility to determine the suitability of this
information for the adoption of safety precautions as may be necessary and to
contact the company to make sure that the sheet is the latest one issued. If and
in so far as limitation of liability is permitted under the applicable laws, we do
not accept liability for any inaccuracy that may occur in this information.

Note: *Not all safety data sheets were available at the moment this manual was
published. The Océ organisation in your country will be pleased to send you a
copy of the missing sheets. You can find the address of the Océ organisation in
your country in the last appendix of this manual.*

Appendix C
Miscellaneous

Notation conventions

There are a number of notation conventions used in this manual. This consistent style enables you to quickly become conversant with the use of this manual and consequently the Océ CS 5090.

Description Each section or subsection contains a description of the feature or operation identified in the title. It might also include possible applications, as well as any guidelines that you should bear in mind.

Procedures A description is followed by a procedure. A procedure always begins with a phrase which briefly describes the procedure, followed by a series of numbered steps that take you, step by step, through all phases of performing the operation.

Figures and tables Figures and tables are titled and numbered sequentially throughout this manual. Figures include pictures of product components, screendumps, examples, and diagrams of concepts discussed in the description.

Attention getters There are several types of information to which we draw your attention. This information is classified as follows:

Note: *In a 'Note', information is given about matters which ensure the proper functioning of the machine or application, but useful advice concerning its operation may also be given.*

Attention: *The information that follows 'Attention' is given to prevent something (your copy or original, the copier or printer, data files etc.) being damaged.*

Caution: *The information that follows 'Caution' is given to prevent you suffering personal injury.*

Reader's comment sheet

Have you found this manual to be accurate?

❏ Yes
❏ No

Could you operate the product after reading this manual?

❏ Yes
❏ No

Does this manual provide enough background information?

❏ Yes
❏ No

Is the format of this manual convenient in size, readability and arrangement (page layout, chapter order, etc.)?

❏ Yes
❏ No

Could you find the information you were looking for?

❏ Always
❏ Most of the times
❏ Sometimes
❏ Not at all

What did you use to find the required information?

❏ Table of contents
❏ Index

Are you satisfied with this manual?

❏ Yes
❏ No

Thank you for evaluating this manual.
If you have other comments or concerns, please explain or suggest improvements overleaf or on a separate sheet.

7114136

Comments:

Date:

This reader's comment sheet is completed by:
(If you prefer to remain unknown, please do fill in your occupation)

Name:

Occupation:

Company:

Phone:

Address:

City:

Country:

Please return this sheet to:

Océ-Technologies B.V.
For the attention of ITC User Documentation.
P.O. Box 101,
5900 MA Venlo
The Netherlands

Send you comments by E-mail to : itc-userdoc@oce.nl

For the addresses of local Océ organizations see: www.oce.com

Addresses of local Océ organisations

Océ-Australia Ltd.
P.O.Box 363
Ferntree Gully MDC VIC 3165
Australia

Océ-Österreich GmbH
Postfach 95
1233 Vienna
Austria

Océ-Belgium N.V./S.A.
Avenue J.Bordetlaan 32
1140 Brussels
Belgium

Océ-Brasil Comércio e Industria Ltda.
Caixa Postal 3187
01060-970 Sao Paulo, SP
Brazil

Océ-Canada Inc.
525, Logan Avenue,
Toronto, Ontario M4K 3B3
Canada

Océ Office Equipment (Beijing) Co Ltd.
Xu Mu Cheng
Chaoyang District
Beijing 100028
China

Océ-Èeská republika s.r.o.
Hanusova 18
14021 Praha 4
Pankrác,
Czech Republic

Océ-Danmark A.S.
Kornmarksvej 6
DK 2605 Brøndby
Denmark

Océ-France S.A.
32, Avenue du Pavé Neuf,
93161 Noisy-le-grand, Cedex
France

Océ-Deutschland GmbH
Postfach 101454
4330 Mülheim an der Ruhr (13)
Deutschland

Océ (Hong Kong China) Ltd.
12/F 1202 The Lee Gardens
33 Hysan Avenue, Causeway Bay
Hong Kong

Océ-Hungária Kft.
P.O.B. 237
1241 Budapest
Hungary

Océ-Italia S.p.A.
Strada Padana Superiore 2/B
20063 Cernusco sul Naviglio (MI)
Italia

Océ Systems (Malaysia Sdn. Bhd.)
#3.01, Level 3, Wisma Academy
Lot 4A, Jalan 19/1
46300 Petalig Jaya
Malaysia

Océ-Nederland B.V.
P.O.Box 800
5201 AV 's-Hertogenbosch
The Netherlands

Océ Norge A/S
Postboks 53, Grefsen
0409 Oslo 4
Norway

Océ-Poland Ltd.
ul. £opuszañska 53
02-232 Warszawa
Poland

Océ-Lima Mayer S.A.
Av. José Gomes Ferreira, 11
Ed. Atlas II Miraflores
1495 Algés
Portugal

Océ (Far East) Pte. Ltd./
Océ (Singapore) Pte. Ltd.,
#03-00 Wisma Gulab
190 MacPherson Road
Singapore 348548

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08820 El Prat del Llobregat (Barcelona)
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P.O.box 1231
S-164 28 Kista
Sweden

Océ-Schweiz AG
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CH8152 Glattbrugg
Switzerland

Océ (Taiwan) Ltd.
No. 99-24 Nan Kang Road Sec.2
Taipeh, Taiwan
Taiwan, RO

Océ (Thailand) Ltd.
16th Floor, B.B. Building
54 Asoke Road, Sukhumvit 21
Bangkok 10110
Thailand

Océ-U.K.Ltd.
Langston Road
Loughton, Essex IG10 3SL
United Kingdom

Océ-USA Inc.
5450 North Cumberland Av.
Chicago, Ill. 60656
U.S.A.

Appendix D
Technical specifications

Océ CS 5090 printer specifications

Media types	Photo paper, matte paper, drafting films, specialty paper
Media roll parameters	Inner roll core: 2" and 3" Maximum outside roll diameter: 6" Maximum roll width: 60", 42"
Resolution	600 x 600 dpi 300 x 300 dpi RTI
Standard features	Rollfeed with cutter Power feed and take-up 8 user-savable settings Power PC 50 MHz processor Ink cartridges (8) 500 ml ink reservoirs (8) Two sets of ink lines on one cartridge set (12 lines total) Ink priming system
Line length accuracy	+/-0.2% in paper and carriage axis using rollfeed, 4 mil drafting film Image frame length (X-axis) variation +/- 0.2% and width (Y-axis) variation +/-0.06% +/- 0.024" (.6mm).
Buffer	One 168-pin PC133 DIMM slot. 64 MB standard User upgradeable to 128 MB or 256 MB
Interfaces	Bidirectional Parallel (IEEE 1284) 10/100BaseT (RJ45 connector)
Baud rates	9600, 19200, 38400
Power Consumption	90-246 VAC 47-63 Hz 20 W Idle, 185 W Typical, 285 W Maximum (printer only, 1485 W Maximum (printer and dryer)
Operating environment	65° - 85°F (18° - 30°C), 20-70% RH non condensing
Storage environment	40° - 95°F (4°- 35°C), 5-80% RH, Non-condensing

Certifications

Safety	CSA, CSE/NRTL, (equivalent to UL1950)
	TUV GS
	EN 50 082-1
	EN 60 950
	UL1950
	NOM-019-SCFI-1993
	IEC 950
	AS/NZS 3260

EMI	FCC Class B
	CSA C108.8
	EN 55 022 Class B
	CE Mark
	CISPR 22- Class B
	AS/NZS 3548

Dimensions

	60" model	42" model
Height (platen above floor)	44" (1.12m)	44" (1.12m)
Width	11" (2.82m)	93" (2.37m)
Depth	28" (0.71m)	28" (0.71m)
Weight	165 lbs.	150 lbs.
Print width	up to 59.6" printable	up to 41.6" printable

Appendix E
Supplies

This section gives a summary of the supplies available for the Océ CS 5090. For a complete and up to date catalogue of Océ inks and media, contact your sales representative.

Caring for inks and media

Follow these recommendations when handling inks, cartridges, and media for best results.

Inks and ink cartridges

- Each of the cartridges and ink reservoirs must contain the same type of ink.
- Do not mix inks.
- Do not refill containers.
- Store ink and cartridges in the same environment as the printer whenever possible.
- Removing a cartridge may result in loss of negative pressure and cause it to leak through the jet plate.
- If you remove a cartridge from the printer, do not leave it exposed to the air for an extended period because the jet may clog. Replace the original tape on the jet plate. Place the cartridge in a cartridge garage or a sealed plastic bag and store it at room temperature and out of direct sunlight.
- Open new cartridges only when you are ready to install them.
- Use only OCE brand ink refills and cartridges.
- Connect cartridges to reservoirs which contain the same colour and ink type as the cartridge.
- Drawings using both black and colour elements must have aligned cartridges (see 'Cartridges calibration' on page 41).

Attention: *Handle cartridges only by touching the plastic areas. Touching the copper electrical interconnect or the inkjets can damage the cartridge.*

Caring for your media

For best results follow these instructions when handling media:

- Store media in its original packaging in a cool, dry area until you are ready to use it.
- The environment should be stable (no extremes of heat or cold, or non-condensing humidity). If temperature conditions are outside the recommended range for printer operation, allow the media to acclimatise in the operating environment for at least 48 hours before use.
- If you remove a roll of media from the printer, store it in such a way as to keep it clean and free of dust. Ideally, you should return it to its original packaging for storage.
- Print on the correct side. The printable side of all OCE media always is on the outside of the roll.
- If there is any doubt what is the correct side, the coated side can be identified by wetting the surface a bit and feel if the surface is somewhat sticky.(coated side is the printable side).
- Handle the media with care to avoid creases, scrapes, and tears. Avoid crushing or damaging of roll media edges.

Attention: *Wear gloves (for instance cotton gloves).Film-based and photographic paper-based media are very sensitive to scratches and creases, and may absorb skin oils. Fingerprints on the media before printing may result in visible fingerprints after the ink is applied.*

Inks for Océ CS 5090 printers

Océ develops its inks and media to work together in order to produce optimal results from your printer. Use only inks and ink cartridges specific to the Océ CS 5090 printer model. Use outdoor inks with Outdoor media.

Océ Standard Colour Inks accessory kits

Standard Colour Inks accessory kit	Colour	Article number
Océ CS 5090 SC-2 ink	Cyan	29953500
Océ CS 5090 SC-2 ink	Magenta	29953501
Océ CS 5090 SC-2 ink	Yellow	29953502
Océ CS 5090 SC-2 ink	Black	29953503

Océ Standard Colour Inks replacement cartridges

Standard Colour replacement cartridges	Colour	Article number
Océ CS 5090 SC-2 Ink	Cyan	29953558
Océ CS 5090 SC-2 Ink	Magenta	29953559
Océ CS 5090 SC-2 Ink	Yellow	29953560
Océ CS 5090 SC-2 Ink	Black	29953561

Océ Standard Colour Inks litre kit

Litre kit	Colour	Article number
Océ CS 5090 SC-2 Ink	Cyan	29953554
Océ CS 5090 SC-2 Ink	Magenta	29953555
Océ CS 5090 SC-2 Ink	Yellow	29953556
Océ CS 5090 SC-2 Ink	Black	29953557

Océ Graphic Colour Inks accessory kit

Accessory kit	Colour	Article number
Océ CS 5090 GC Ink	Cyan	29953545
Océ CS 5090 GC Ink	Magenta	29953546
Océ CS 5090 GC Ink	Yellow	29953547
Océ CS 5090 GC Ink	Black	29953548
Océ CS 5090 GC Ink	Cyan Medium	29953620
Océ CS 5090 GC Ink	Cyan Light	29953619
Océ CS 5090 GC Ink	Magenta Medium	29953621
Océ CS 5090 GC Ink	Magenta Light	29953622

Océ Graphic Colour Inks replacement cartridges

Graphic Colour replacement cartridges	Colour	Article number
Océ CS 5090 GC Ink	Cyan	29953562
Océ CS 5090 GC Ink	Magenta	29953563
Océ CS 5090 GC Ink	Yellow	29953564
Océ CS 5090 GC Ink	Black	29953565
Océ CS 5090 GC Ink	Cyan Medium	29953648
Océ CS 5090 GC Ink	Cyan Light	29953647
Océ CS 5090 GC Ink	Magenta Medium	29953649
Océ CS 5090 GC Ink	Magenta Light	29953650

Océ Graphic Colour Inks litre kit

Litre kit		Colour	Article number
Océ CS 5090 GC Ink		Cyan	29953571
Océ CS 5090 GC Ink		Magenta	29953572
Océ CS 5090 GC Ink		Yellow	29953573
Océ CS 5090 GC Ink		Black	29953570

Océ Outdoor Inks accessory kits

Outdoor Colour Inks accessory kit	Colour	Article number
Océ CS 5090 Outdoor Colour Ink	Cyan	29953504
Océ CS 5090 Outdoor Colour Ink	Magenta	29953505
Océ CS 5090 Outdoor Colour Ink	Yellow	29953506
Océ CS 5090 Outdoor Colour Ink	Black	29953507
Océ CS 5090 Outdoor Colour Ink	Cyan Medium	29953615
Océ CS 5090 Outdoor Colour Ink	Magenta Medium	29953616
Océ CS 5090 Outdoor Colour Ink	Orange	29953617
Océ CS 5090 Outdoor Colour Ink	Green	29953618

Océ Outdoor Colour Inks replacement cartridges

Outdoor Colour replacement cartridges	Colour	Article number
Océ CS 5090 Outdoor Colour Ink	Cyan	29953512
Océ CS 5090 Outdoor Colour Ink	Magenta	29953513
Océ CS 5090 Outdoor Colour Ink	Yellow	29953514
Océ CS 5090 Outdoor Colour Ink	Black	29953515
Océ CS 5090 Outdoor Colour Ink	Cyan Medium	29953643
Océ CS 5090 Outdoor Colour Ink	Magenta Medium	29953644
Océ CS 5090 Outdoor Colour Ink	Orange	29953645
Océ CS 5090 Outdoor Colour Ink	Green	29953646

Océ Outdoor Colour Ink litre kit

Litre kit	Colour	Article number
Océ CS 5090 Outdoor Colour Ink	Cyan	29953521
Océ CS 5090 Outdoor Colour Ink	Magenta	29953522
Océ CS 5090 Outdoor Colour Ink	Yellow	29953523
Océ CS 5090 Outdoor Colour Ink	Black	29953524

Media for Océ CS 5090 printers

We offer you today's most comprehensive range of supplies for every wide-format display graphics application. All of them are based on our in-depth know-how of both systems and supplies.

Due to our extended Océ R&D program and own production facilities for both inkjet papers and inkjet films, Océ has the opportunity to offer the ideal line of inkjet media for the Océ CS 5090.

To support this media assortment Océ also offers colour profiles for all the ink media combinations. Next to this, our laminates give the opportunity to create the ideal finished print based on these Océ media, so your prints produced on the CS 5090 will be able to meet every challenge in whatever environment.

With this Océ Supplies Assortment, you are able to meet all the printing needs in the market.

For precise ordering details, contact your customer service representative.

Paper type	Description		Suggested application
Photo paper	■ glossy and satin ■ ranging from 160 g/m² to 240 g/m² ■ top quality papers with PE layer		■ posters ■ displays ■ floor graphics
Various paper	■ ranging from 90 g/m² to 170 g/m² ■ paper-based media, no PE layer		■ check prints ■ glare-free presentations ■ imposition proofs
Backlit films	■ Backlit 135 µm Back Print and 185 µm Front Print option ■ translucent film		■ backlit displays ■ light box signs ■ trade show displays
Clear films	■ very clear film from 110 to 120 µm ■ with or without adhesive layer		■ presentation overlays
Ultra White films	■ ultra white film from 110 to 120 µm ■ with or without adhesive layer		■ signs and posters ■ durable prints
Outdoor media	■ ranging from outdoor banners to outdoor tyvek ■ with or without adhesive layer		■ banners ■ outdoor signs
Specialties	■ ranging from drop-flame retardancy banners to silver metallic films ■ with or without adhesive layer		■ flame-retardant banners ■ prestigious advertisements ■ canvas for artistic reproductions

Assortment

Inkjet Indoor Papers	■ Indoor photo papers
	■ Indoor papers
Inkjet Indoor films	■ Indoor backlit films
	■ Indoor white films
	■ Indoor clear films
Inkjet indoor specialties	■ Indoor Banner specialties
	■ Indoor canvas specialties
	■ Indoor textile specialties
	■ Indoor Other specialties
Inkjet outdoor supplies	■ Outdoor papers
	■ Outdoor banner supplies
	■ Outdoor adhesive supplies
	■ Outdoor films
Laminating films	■ Cold PET films
	■ Cold PVC films
	■ Hot films
	■ Mounting films
	■ Special films
	■ Supplies for cold lamination
	■ Supplies for hot encapsulation
	■ Ultra range, warm films

Note: *For more information about our assortment, please visit our internet site (www. supplies.oce.com) available from Jan 1, 2001.*

Miscellaneous Océ CS 5090 accessories

Article	Reference number
Cutter blades (5 per pack)	310571465
Ink Reservoir Assembly Blue	
Ink Reservoir Assembly Purple	
Kit Cartridge septum	310571485
Service Station Assembly CS5090	310571484
Print Head Garage for CS 5090 cartridges	29953516
Océ white gloves	

Warranty Inkjet Cartridges for Océ 5350-600, CS 5050/5070/5090

For Océ branded cartridges there is a 500 ml printing warranty. The warranty does not apply for foreign branded or unbranded or misused cartridges.

When problems occur first check the printed ink volume of the cartridge:

1 Select **Utility Menu> Service Menu**.
2 Press **Cartridge Info**.
   Note: *Warranty only applies when the printing volume has not exceeded 500ml.*

To ensure the highest quality and reliable productivity, cartridges will shut off at 1280ml with a 'Cartridge End of Life' message. After this 'End of Life' message, cartridges cannot be used anymore.

Priming

In all cases of printing problems with your cartridges, perform a Prime test by selecting **Utility Menu > Prime**. Basically there can be three possible prime test printouts:

Correct print   Clogged nozzles   Electrical Defects
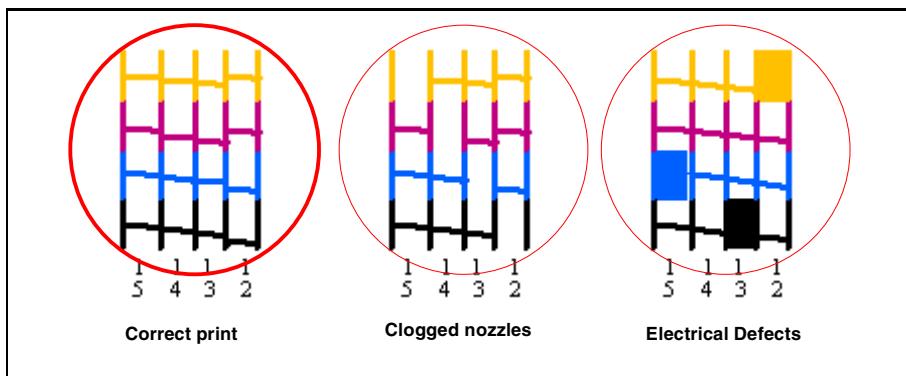
Clogged nozzles Clogged nozzles are not within the Océ cartridge warranty because they can be reactivated or compensated.

▼   **To reactivate the nozzles**
- Set 100% Colour Test in 2 pass mode (see 'Run a colour test' on page 35)
- Use Prime Tools (only max. 5 short pulses of 1 second each)
- Clean the jet plate with distilled water and a lint-free cloth
- Place the cartridge 10 seconds in hot distilled water (max 5 mm)
- Ultrasonic cleaning in distilled water for 1 - 2 minutes (max 5mm)

If not all nozzles can be reactivated, manual compensation is advised (see 'Compensate manually for clogged jets' on page 123).

▼   **To compensate electrical defective nozzles**

Check whether the electrical contacts are contaminated with ink, grease, debris or the like and clean.

If the electrical defective nozzles can not be compensated in 4, 6, 8, 10 - pass mode (or 2, 3, 4, 5 -pass mode for the CS5090), the cartridge warranty applies and the cartridge will be replaced for free.

Pass mode compensation is displayed in the header of the Prime test printout.

Causes of the most common problems

Non-recognition of the cartridge Be sure that the cartridge is an Océ branded cartridge. Check on poor electrical contacts (see section below).

Poor electrical contacts. Poor Electrical Contacts can lead to non-recognition by the printer or to many electrical nozzle fall-outs. This can be due to ink, ink debris, oil or grease on the surface of the electrical contacts on either cartridges or carriage assembly. Clean the electrical contacts with water or isopropyl alcohol (switch power off before cleaning).

Check cleaning station assembly The cleaning station should be rinsed regularly, preferably every day, under running water. if not, debris may contaminate on to the jet plate and nozzles.

Ink starvation Check by performing the Colour Test in 2 pass mode. Ensure that the cartridge is properly primed and that there is no air in the tubing system.

Banding In order to prevent or minimize banding, adjust cartridges according the calibration & ColourDB procedure. Choose the optimal printing mode.

Return Shipments of defective cartridges

Cartridges for warranty should be returned to Océ together with:

- printed example of the Prime test
- description of the complaint
- amount of printed ink volume

Returned cartridges should be:

- empty of ink (use syringe to empty)
- stored in the printhead garage
- packed properly.

Note: *Cartridges that can be tested because of leaks or ink debris cannot be checked and will not apply for warranty.*

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Auto Media Loading

Always load media from the rear of the printer, never load media from the front.

Manually feed the media into rear printer guide channel, align media with the white mark on the platen's left edge. You must adjust position of the media guides to within 1/8" or 3 mm of media edges or skewing of the media may occur.

Once the media is fed into the printer there will be a short delay then the autoload paper sensor will pull the media into the printer load point.

The printer will then size media by checking the media edges.

To verify the carriage paper sensor is working check Display settings by selecting Utility Menu - Display settings. Verify the paper width is correct. The paper width should be the true width of media, the page width is the maximum printable area depending on the margins setting selected.

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End of Media

To prevent the printer from continuing to print after media runs out select Feed Media Menu, End of Media, Feeder Stop.
This will pause the printer when the feed sensor is no longer blocked for 15 seconds by the media roll.

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Loading Ink

Remove 4 or 8 reservoirs from printer.

Note: *the right 4 reservoirs are labeled as YMCK while the Left 4 are labeled 1 through 4, with black being slot 1.*

Install ink into reservoirs over a table to ensure spills do not occur, fill reservoir until full.
Install reservoir into printer. Ensure reservoirs are properly installed. Tighten reservoir cap and ensure needle is tight by turning fully clockwise.

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Install Ink Cartridges

Remove the cartridge from plastic garage. Install the cartridge into the carriage at the appropriate location and remove the black shipping cap by twisting counterclockwise. Do not remove tape strip from the cartridge at this time.

Retain the garage and shipping cap for cartridge storage. Repeat process for the other cartridges.

Back

Install Media Rollers

On the roll guide adapter note the direction of intended media travel.
Attach media to media roll guides and lock with the blue adapter. Attach media core to the other media roll guide.
Install media roll guides into printer.

Back

Prime Ink Delivery Line

To prime the ink delivery line, open the valve cover. Attach the cartridge tubing needle to the appropriate valve. Press the septum fitting onto the needle securely. Snap the valve cover closed.

Using the ink prime device located in the ink prime holster insert the cartridge tubing needle end into the suction tip of the ink prime 1 cm or approximately ½".

Prime the ink delivery line with a steady burst by depressing and holding the ink prime activation button.

When ink floods the ink delivery line, release the activation button and disconnect the needle from the ink prime and insert into the cartridge.

Twist the black cartridge tubing needle clockwise tightly to secure onto the cartridge. Repeat process for the other ink lines.

Prime Cartridge

To prime the cartridge, first remove tape from the cartridge jet plate area. Holding the cartridge and ink prime at a 30 degree angle as shown, prime the cartridge with 3 one second bursts spaced 3-5 seconds apart until ink is visible in the ink line.

Ensure no large ink bubbles are visible in the ink line. The priming process should take about 30 to 60 seconds for each cartridge.

Wipe the cartridge jet plate with the Ink Prime suction tip to wipe away excess ink.

Caution: *Keep bottle upright or spills may be encountered and do not fill above the mark line, the Ink Prime will not function efficiently when bottle is too full.*

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Checking Cartridge Ink Level

For ink starvation problems where the color test failed en-
sure the cartridge has the required ink level.
Using the syringe and extension tube provided, draw 20ml
of ink from the inkbottle or reservoir.
Open valve cover to isolate ink delivery line.
Remove the cartridge-tubing needle from the cartridge
and quickly squeeze the 20ml inside, immediately draw
the excess from the cartridge. Reattach the cartridge-tub-
ing needle to the cartridge.Close the valve cover.
The ink level is now set correctly.
A re-prime of the cartridge may be necessary to establish
the required negative pressure inside the cartridge.

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Cleaning Cartridge

To access either the left or right print head select Utility Menu, Access Menu, select Access Left or Access Right.
To clean the cartridge unsnap the cartridge from the carriage assembly (apply a lint-free towel dampened with water to the jet plate area. Blot the jet plate, do not wipe the gold jet area).
The edges may be wiped and cleaned of ink residue.
Clean the electrical contacts on the rear of the cartridge by wiping gently, ensure no fibers are left attached to the cartridge surfaces.
Reattach the cartridge to the carriage.
Select Access Home to return the printheads to the service station position when cleaning is complete.

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Clean Encoder Strip

To clean the encoder strip of ink and debris obtain industrial strength isopropyl alcohol. Remove power from printer. Dampen an industrial cotton swab with the isopropyl alcohol, clean the top and bottom surfaces of the entire length of the encoder strip. Several cotton swabs may be necessary to completely clean the encoder strip. Cleaning the encoder strip will prevent image output from stepping or walking.

Back

Clean Trailing Cables

To clean the trailing cables of ink and debris, first remove power from the printer. Dampen a lint-free towel with water and wipe the entire surface area of the white trailing cables.

Caution: *Do not pull too hard on the cables or damage may occur (do not lift from encoder stabilizer bracket or bend cables).*

For extremely dirty cables soapy water may be necessary. Clean the top surface of the encoder stabilizer bracket and the lower surface of the rear bracket as shown. This will prevent friction between the cables and stationary surfaces.

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Clean Slide Shaft

To clean the slide shaft first remove power from the printer. Apply isopropyl alcohol to a lint-free towel and wipe the entire surface area of the slide shaft including the service station area.

Caution: Never use lubricants on the slide shaft

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Clean Flex Cables

To clean the flex driver cables first remove power from the printer. Remove the cartridges from the carriage assembly. Apply isopropyl alcohol to a lint-free towel and wipe the entire surface area of each cable. Ensure no fibers remain on the cables.

Note: *Before removing the cartridges open the valve cover above each cartridge to isolate the ink line. Store cartridges in garages to prevent cartridge jet plate damage.*

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Clean Service Station

To clean the service station first remove the service station. Select Utility Menu, Access Menu, Access Left. Then pull on the tab at the far right end of the service station, lift service station free. Rinse service station under water for 1 minute.

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Clean Pinch Rollers

To clean the pinch rollers ensure power is applied to the printer and media is removed. Dampen a lint-free cloth with water. Under the Feed Media Menu, select Backward or Forward. Place the cloth gently against each set of rollers while rollers are turning.

Caution: *Do not allow cloth or foreign matter to get pulled into printer or damage to the printer may result.*

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Clean Carriage Bushings

To clean the carriage bushings of ink and lint debris first remove power from the printer or select Access Menu to move carriage out of the service station area. Dampen a lint-free cloth or cotton swab with water and wipe the entire edge area of both carriage bushings. Wipe away excess water. Do not apply alcohol or lubricants to bushing.

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Clean Vacuum Holes

To clean the platen vacuum holes obtain a toothpick and gently remove lint and media fiber from platen holes.

Caution: Do not push lint through platen holes or problems with the stepper motor gearing may eventually occur leading to microbanding in image output.

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Clean Cutter Groove

Remove media from the printer. To clean the cutter groove of lint debris use the opposite end of a cotton swab and run down the entire length of the cutter groove. Ensure no media fibers remain in the cutter groove.

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Printer Cautions!

Never touch the slide shaft while printer is operating or damage may occur to printer. Never remove the service station while printer is in operation or bodily harm may result. Always keep top cover down to prolong carriage bushing and trailing cable life.

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Cutter Operation

Ensure cutter is locked securely into left side of carriage assembly. To activate the cutter select Cut at the main menu. The cutter actuator engages the cutter, and the media is cut. The cutter retracts upon entering the service station by riding up the service station ramp.

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Power Up

Attach power cord to the power entry module at left rear of printer, turn on power switch.

The media system LED's immediately illuminate RED at power up. The dryer fan will energize for 1 second and turn off, after approximately 3 seconds the control panel will display ("Initializing….").

Carriage will move to left end of printing area and return to service station.

Carriage will check for presence of media and size media if loaded.

The Main Menu display will appear at control panel.

Network Connectivity

The printer comes with a built-in 100BaseT network board which interfaces via two cables.
Attach the provided parallel printer cable between the upper centronics parallel port and the lower parallel port at right rear of printer.
Attach an ethernet cable to the E-connect jack.
Verify the green and yellow lights illuminate.
The green light indicates the server is communicating with the network.

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